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HISTORY

136TH

RADIO SECURITY DETACHMENT

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31 MAY 1946

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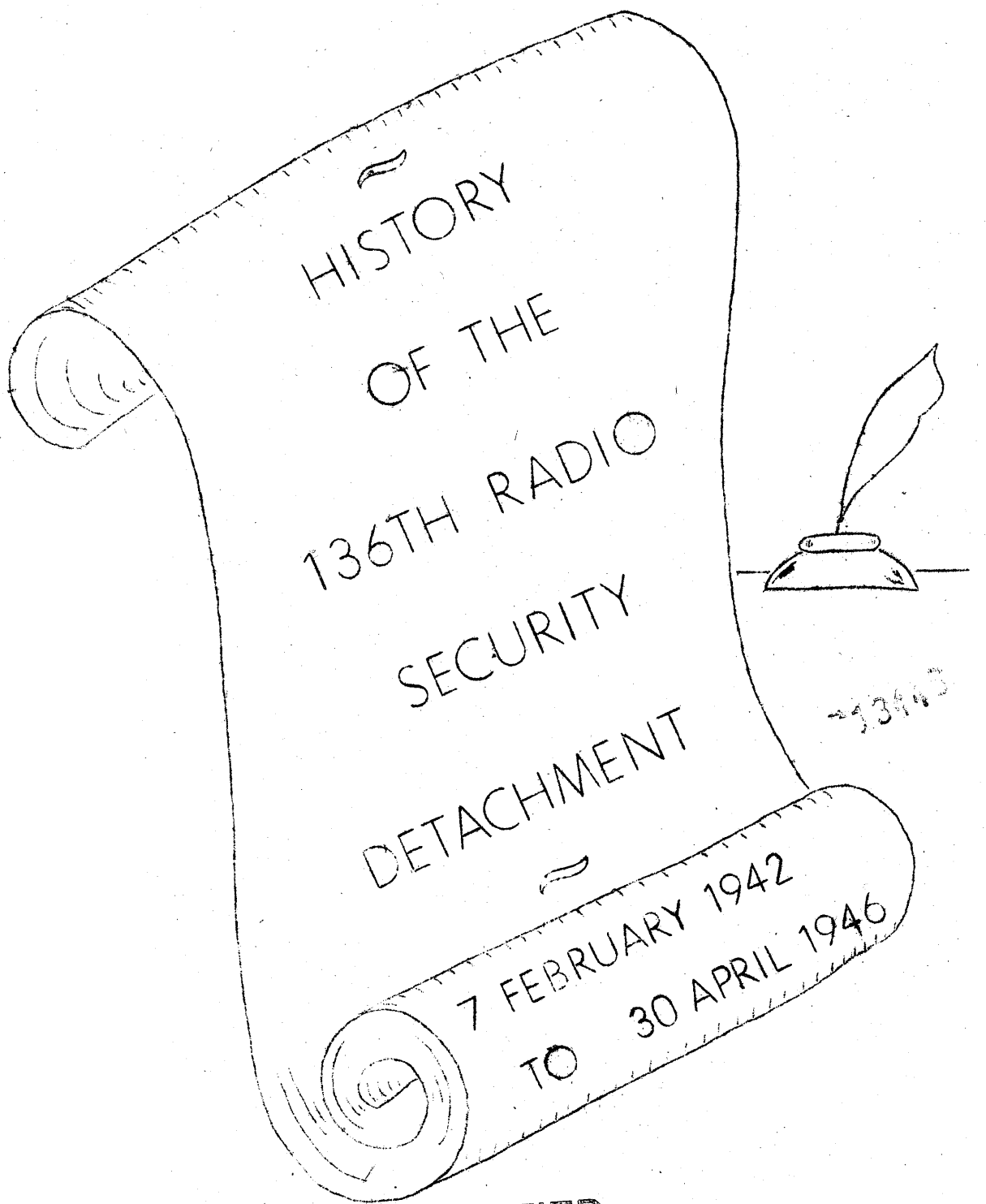


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ARMY AIR FORCES
HEADQUARTERS 136TH RADIO SECURITY DETACHMENT
MITCHEL FIELD, NEW YORK

20 May 1946

SUBJECT: Transmittal of Detachment History

TO: Commandant
Command & General Staff School
FT. Leavenworth, Kansas

1. Submitted for your information is the Unit History of the 136th Radio Security Detachment covering the period of 7 February 1942 to 30 April 1946. Copies of the Detachment History are being distributed to those major AAF Commands and certain of their lower echelons with which this unit and its field activities have been affiliated and those to whom copies of the Monthly Security and Operations Report were distributed. (Short titles: SORD, SORDA OR SORDT.)

2. In order that interested agencies may become acquainted with the many problems and conclusions which resulted from the global monitoring activities of this unit, this history, by direction of the Air Communications Officer, Headquarters, Army Air Forces, is being given a distribution greater than that normally required. It is hoped that this document will be of benefit to those directly concerned with radio communications since this Detachment is the first and only disinterested agency to devote its entire efforts and facilities to monitoring Army Air Force radio communication networks.

Edward H. Golembieski

EDWARD H. GOLEMBIESKI
Captain, A.C.
Commanding

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# HISTORY

OF THE

# 136TH RADIO SECURITY DETACHMENT

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## FOREWORD

Radio transmission security was a little understood subject in the Army Air Forces at the beginning of the recent war. Training manuals referred to radio security in a brief paragraph or two, with casual statements to the effect that it was possible for the enemy to obtain information from friendly radio transmissions. The regulations covering the subject were for the most part adequate but there appeared to be little awareness of their existence on the part of most communications personnel. The difficulty of training large numbers of pilots and radio operators was tremendous. There was little time for drilling in procedures and security measures until they became a matter of habit.

With the realization of the weakness in radio communications, self-monitoring was established by War Department directive for all Army organizations. In most cases, however, reports and investigation revealed that more often than not, monitors were reluctant to report discrepancies committed by their own organizations and friends. Also, it was found that the job of self-monitoring was usually rotated and few of the monitors selected were thoroughly trained in the subject.

The establishment of the 136th Radio Security Detachment was the result of a realization of the importance of radio security and the need for a trained, unbiased organization to police the circuits of the Army Air Forces. The organization, which got into operation

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at a comparatively late date in the war, brought to light an important source of information to the enemy. Much progress was made in the indoctrination of Air Force communication personnel in correct security measures during the last year and a half of the war. However, of almost equal importance, was the experience and background obtained by the organization for future guidance. Paramount is the fact that the time for security indoctrination is not at the beginning or during an emergency. Such training should be maintained continually during peace time in order that all communications personnel realize to the fullest extent the importance of communications intelligence and security. It is hoped that the history which is presented herein may help as a guide to that end.

Edward H. Golembieski

Edward H. Golembieski
Captain, Air Corps.
Commanding

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# PREFACE

Many a historian in the course of research has come up against the familiar response, "I didn't think it was important", or, "How was I to know at that time that someone would want that information for writing a history?"

Thereby hangs a tale. As a result, much valuable information concerning the earlier periods of organization and activity of the 136th were found to be shrouded in a mist of uncertainty. Records were incomplete and sketchy. Personnel who could have filled in important gaps and connected vital links were beyond the reach of personal interview. In addition, much of the work was of a highly classified nature and decisions affecting operations were very often lost in the conference room and private conversation.

Fortunately, these obstacles robbed this history neither of completeness nor authenticity. By dint of deeper and more extensive research and a wait for the return from overseas of personnel associated with the outfit in its early days, it was possible to give a complete picture of the contributions of the 136th Radio Security Detachment during World War II.

William Elfert

WILLIAM ELFERT
1st Lt. Air Corps.
Detachment Historian

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# CHAPTER ONE

# EARLY

# ORGANIZATION

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# CHAPTER I

## EARLY ORGANIZATION

### BACKGROUND

The importance of communications in World War II has already been established. Regardless of the branch of service, communications performed valiantly. Aircraft were guided into the air on takeoff, were supplied with important weather information and kept safely on course during flight, were able to keep in touch with each other and with the home base, and were supplied with landing information to ensure their safe landing--all by radio communications. In other branches of service, communications contributed to the over-all spirit of keeping military and naval units closely knit to enable them to work as smoothly while separated as when together.

However, the success of any attempted mission whatever its nature, the establishment and continuation of the cohesiveness necessary to the functioning of an integrated unit, depend, during warfare, upon keeping the enemy uninformed as to what is happening or about to happen. The safeguards which are established to ensure this condition are called security and the contributory means of establishing security is the adherence to correct operating procedure.

It was with these aspects of communication that the 136th Radio Security Detachment was concerned during World War II.

Up to the early part of 1942, the Army Air Forces had no monitoring organization of its own. Indeed, nowhere in the Air Forces was there to be found a unit whose mission it was to monitor radio transmissions for security purposes. What did exist were Service Force Radio

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Chapter I -- Early Organization.

Intelligence Companies which simply intercepted enemy radio traffic and forwarded the results to a centrally located, high-echelon unit for subsequent processing and analysis. While this system worked well on the basis of comparatively slow moving and armies, and had a certain strategic value, it was insufficient to meet the accelerated pace and tempo of tactical aerial warfare. Of self-monitoring there was very little and this only in spare moments.

What was needed was a security monitoring unit functioning solely for the AAF. However, it wasn't until the early part of 1942 that the much-needed impetus was given the organization of such a unit. This came about as a result of a visit which a high-ranking Air Force officer made to the Presque Isle Army Air Base at Presque Isle, Maine, early in 1942.(1)

The officer's observation of the extensive flow of aircraft across the North Atlantic resulting from our lend-lease program and the use of the base as a port of aerial embarkation for the movement of troops overseas convinced him of the necessity for a radio security monitoring organization to improve communications and to report on the security status of aircraft movement messages in the North Atlantic area.(2)

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1. Federal Communications Commission, Engineering Dept., National Defense Operations Section, Field Division, Washington, D. C. 9 May 42, TO: Lt. Gen. H. H. Arnold from James Lawrence Fly, Chairman.

2. Hdqrs. AAF, Washington, D. C. Directorate of Communications AFTSC/TS-3 10-30-42, Warning Orders Att: Col. J. W. Baylor, Chief, Task Force Section From A. W. Marriner, Col. A. C.

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Chapter I -- Early Organization.

## Activation and Mission.

The 136th Signal Radio Intelligence Company, a Signal Corps unit attached to the Air Corps was one of 14 such Radio Intelligence Companies originally intended to be apportioned on the basis of one to each Air Force.(3)

As a result of the officer's recommendations, a search was made among available radio intelligence units for one which could accomplish the mission. The 136th Signal Radio Intelligence Company stationed at Bolling Field, Washington, D. C. was within easy reach and was chosen for the task. Machinery was set in motion for adapting it to its new mission--security monitoring solely for the AAF.

In line with the foregoing decisions, the next few months were devoted to the acquisition and training of personnel. This program ran into some difficulty since qualified radio and communications personnel were not to be had in numbers great enough to fill the immediate needs of the Company. Whatever personnel were acquired were found to be, in the main, unadaptable and unsuitable for technical radio training. In addition, the training program was hampered by the lack of qualified instructors. To meet this need several instructors were borrowed from the Signal Corps, Air Force Combat Command with which the 136th was working in close liaison at the time. Since T/O 11-77, under which the 136th was organized, did not provide for training equipment, it was necessary

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3. Adj. Gen. Letter 320.2 (1-29-42) MR-N-AAF/A-1 Wash. D.C. 7 Feb 42.



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to use part of the equipment of this same Signal Company. It was also necessary to supplement the radio training provided in the Company's own school with that offered by outside training institutions. Groups of enlisted men who showed signs of becoming desirable radio operators and technicians were sent to various privately conducted schools offering courses in radio operation, International Morse Code, and radio maintenance. One of the chief criticisms of the personnel that were sent into the Company from Army Service Schools was that they did not measure up to the Military Occupational Specialty of high-speed radio operator for which they had been trained. For example, instead of having a code receiving speed of 25 WPM, it was found that they could only take 15 WPM. In consequence, therefore, training had to be given by the Company's own school to bring the ability of the men up to the desired standard of efficiency. It was not until many months later that the desired type of personnel became available from schools conducted by the Technical Training Command.

At this early stage the 136th was administratively attached to Signal Company, Air Force Combat Command with which it shared an orderly room, supply room, day room, and all company duties. It wasn't until the fall of that year that the company began to emerge as a more independent administrative unit.

## First Monitor Station.

The 136th now proceeded with the installation of a monitor station at Presque Isle Army Air Base. Accordingly in June, 1942, enough enlisted

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Chapter I -- Early Organization.

men were requested for the task.(4) The first monitor station of the 136th was soon operating, its initial work consisting mainly of intercepting German and Italian weather traffic. The results of this intercept were deemed important enough by the Directorate of Communications for it to be sent by TWX to Arlington Hall, Virginia instead of going by regular mail. Another operating function of this first monitor station was to monitor all traffic being transmitted in the North Atlantic sector by stations of the Army Airways Communications System. Thus, was established the first unit of what later grew to be 21 far-flung, globally deployed radio security monitoring units of similar character.

Since it was contemplated that additional operating platoons would be organized, a set of instructions for monitoring and radio direction finding(5) activities was drawn up. These required that monitoring be maintained for 24-hour periods seven days a week, monitoring time was to be divided between the intercept of AAF frequencies and foreign weather or other information of specific value to the AAF. It also included a detailed outline on intercept, monitoring instructions, how to monitor, forms to use, markings to be used, reports to be prepared from processed data, and log notations and comments to be made by operators. It was directed that the original copy of logged transmissions be sent daily to Air Force Headquarters; another copy was to be kept in platoon files for thirty

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4. W. D. Hqrs. AAF Wash. 13 June 42, AFTSC (TF-1) Subj: Request for Radio Operators for Monitoring Station, Presque Isle, Maine, Signed: A. W. Marriner, Col AAF, Director of Communications.

5. Hqrs AAF AFTSC (B-3) Oct 42 Subj: Monitoring and RD/F Instructions.

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days and then burned. A third copy of the data was to be mailed to the Directorate of Communications for a 15 day period following inauguration of intercept monitoring. Direction finding instructions consisted of the choosing of a suitable site according to FM 11-20 and the taking of bearings on all stations believed to be of importance and preserved by the intercept unit. Bearings were to be taken on all stations both near and far and the results recorded giving complete information.

## Continuation of Training.

The remainder of the year was devoted chiefly to the continuation of training and the acquisition of additional personnel. In an effort to provide experienced personnel, the 136th arranged for the direct enlistment of civilians who were trained radio operators and maintenance men. These men performed invaluably as instructors in radio operating and maintenance classes and were responsible for the creation of many qualified operators. It was regrettable that the practice of direct enlistment of qualified personnel was curtailed, since this method proved a fertile source of technically trained personnel. Personnel continued to pour into the 136th from different army installations and schools. The quality of these men continued to be poor, both with respect to previous military technical training and general technical aptitude. For example, out of 76 men assigned to the Company during April only 13 were able to reach the required standard of operating efficiency--and this after eight months. Personnel who could not qualify as radio operators even after undergoing such a course

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in the Company radio school were transferred out.

In spite of these obstacles, operators with sufficient code speed and training in Radio Direction Finding and radio intercept were slowly beginning to be developed. In concurrence with the policies of the Directorate of Communications to deploy detachments of the company in overseas theaters, that office was informed that personnel were available for the formation of monitoring units for overseas duties. Subsequently, in January 1943, one officer and 9 enlisted radio operators were sent to Iceland to monitor AAF and AACS frequencies in that area (6) while another unit consisting of two officers and 16 EM were shipped to Trinidad, BWI, (7) to help clear up badly jumbled AACS nets in the Caribbean area.

It was during this period also that the 136th Signal Radio Intelligence Company divorced itself administratively from the Signal Company AAF and became a fairly independent unit. It acquired its own barracks, orderly room, supply room, day room, and motor lot. However, due to the lack of proper training equipment the company was still forced to work with the Signal Company in the training of radio operators.

The faltering steps which were characteristic of this early period were now becoming a little more steady. The organization began to expand, growing to six operating platoons in the first half of 1943. (8) The role

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6. S. O. 360 Par. 3 Hqrs. AAF Bolling Field, Wash. D. C. 31 dec 1942.

7. W. D. Movement Orders 370.5 (1-6-43) OB-S-EM Jan 7, 1943.

8. W.D. AGO 320.2 (5-4-43) OB-I-AFRDG-M Subj: Reorganization of the 136th S. R. I. Co.

of the parent unit, the 136th Signal Radio Intelligence Company, continued to be one of administration, personnel procurement, training and preparing Sections for shipment overseas. The somewhat antiquated Table of Organization was revised due to the changed character of the work to be performed.

Monitoring Results.

The work of the component operating platoons consisted chiefly of monitoring and intercepting enemy weather broadcasts. In addition, AACS and AAF circuits were monitored both at home and abroad. In the States, a domestic platoon was monitoring 4th Air Force emissions on the West Coast to improve security and radio operating procedure and to assist in the training of both flight and communications personnel of combat units slated for overseas missions. Overseas, one platoon in North Africa working with the Northwest African Air Force monitored air-ground and point-to-point frequencies to improve radio operating procedure and assure compliance with security measures.

The procedure which was followed by these component operating platoons at the time was to forward the monitored logs to the Communications Control Division in Washington, D. C. where they were analyzed and processed by a special unit. Breaches of security as they were reflected in the recorded traffic and flagrant violations of radio operating procedure were underscored and tabulated. Those violations being particularly detrimental to security and operating efficiency were singled out and made the subject of an, "Individual Discrepancy Report," which was sent to the violating agency for corrective action. It contained merely a citation of the violation and

an admonition that corrective action be taken. In this connection, no work at all was done by either the parent unit or the operating platoons, neither being equipped or trained to properly process and analyze intercepted traffic. The Operating Procedures Branch of the Communication Control Division which did the analysis and processing also prepared an operations summary which presented a picture of radio operating conditions in the areas being monitored. These summaries were circulated to interested agencies and an information copy was sent to each operating platoon.

This analysis procedure had several shortcomings; it permitted a lapse of too much time between the actual commission of the violation of security or radio operating procedure and the time of notification of the offending agency, thereby nullifying the remedial value of the Individual Discrepancy Report; also this report failed to indicate the consequence of the violation or state the correct way in which the transmission should have been made.

From time to time these operations summaries, when applicable, recommended to operating platoons methods of improving monitoring procedure. Among these were suggestions that greater use be made of operators personal parenthetical log notations, more accurate notation of readability and signal strength conditions, and extended use of recording equipment for substantiation of violations. Throughout the year 1943 there was a never-ending program of training in effect. Newly acquired men were given a preliminary course in basic training and then, depending upon their Military Occupational Specialties, were assigned to one of several training classes. Chief among these were classes in International Morse Code, radio operating procedure, and radio theory and maintenance, including net operations in

the field. In spite of the indecision and vagueness on the part of higher authority surrounding possible use of the platoons in intercepting enemy transmissions and Radio Direction Finding activities, courses in Japanese code and Japanese radio operating procedure and Direction Finding were held.

Also, a class in the analysis of radio intercept traffic was conducted by a representative of the Operating Procedures Branch for the benefit of enlisted men designated to form a new overseas platoon. This class was the first of its kind, and while it did not go into the problem of radio transmission security analysis in as great detail as subsequent classes, it served to set the pattern for future training of this kind.

Restatement of Mission.

Towards the end of the year the mission of the 136th Signal Radio Intelligence Company was revised to exclude the intercept of enemy weather and Radio Direction Finding activities.(9) With the establishment and growth of a world-wide AAF weather service and a similar expansion of the AACS, the Army Air Forces were provided with complete facilities for the gathering of weather data and the performance of Radio Direction Finding functions. It was therefore deemed unnecessary for the 136th to continue to engage in these activities. The operating platoons were now free to devote their energies more fully and more completely to the monitoring of AAF radio nets.

With the clarification and restatement of its mission the 136th was now able to move ahead on firmer ground and with greater efficiency. Training programs were overhauled to conform to these new requirements. Emphasis

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9. Hqrs. AAF 350.09 (10.31) AFRCM/C-P3 4 Oct. 1943, Subj: Security Monitoring.

Chapter I -- Early Organization.

Was placed on code speeds and CW intercept correspondence was sent out to various Air Forces informing them of the availability of Signal Operating Platoons. Requests were soon forthcoming from the Alaskan Theater, the China-Burma-India Theater and the Pacific Theater.(10) To meet these requests experienced personnel were brought in from the platoons operating in the states to form the nucleus of two new units, increasing the number of component platoons to eight.(11)

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10. (a) Cable C-7345 20 Oct. 1943 signed MacArthur.

(b) 3rd Air Force letter 321 7 July 1944 Subj: Radio Security Sect.

(c) 10th Air Force Cable (Aquila W2474) (IN-14169) 23 Oct. 1943.

11. General Order 15 Hqrs. AAB Bolling Field, D. C. 10 May 1943.

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# CHAPTER TWO

# LATER

# DEVELOPMENTS

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# CHAPTER II

## LATER DEVELOPMENTS

### Establishment of Uniform Analysis Activities

Operational control of the Radio Operating Platoons of the 136th had from the beginning been vested in the Operating Procedures Branch of the Communications Control Division of the Office of the Air Communications Officer. This control covered the assignment of missions to operating platoons including missions of a special nature.(12) This procedure was modified to permit local theater Air Forces and AACS units to request special missions of the platoons. Further directives relative to platoon monitor operations continued to emanate from the Communications Control Division. These served to supplement the first group of monitoring instructions which had been established in October of 1942 and which kept being changed and augmented in the light of changing operating conditions. They recommended extended use of recordings to substantiate violations, in which case the recordings were to be sent to Hqrs. AAF. Recordings were to be particularly made in cases where several stations were transmitting on or near the same frequency causing a jammed channel, conversations between operators, faulty operating procedure, interference arising from AAF or other sources, and instances of improper use of the speed key.

They also established 100% Guard Monitoring and Routine Monitoring. Guard Monitoring was to consist of 100% copying of all transmissions intercepted indicating stations responsible for all transmissions and

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12. Letter, AAF 322/2.2 15 Jan. 44 Office of the ACO Comm. Control Div. Subj: Monitor Assignments.



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other pertinent information. Routine Monitoring was the copying of all transmissions practicable with full notation even to the point of disregarding part of the transmission, the purpose being to provide spot monitoring of various designated frequencies.

In line with a desire on the part of both the Communications Control Division and the 136th Signal Radio Operating Platoons a conference was held at the end of January 1944 at which representatives of both organizations were in attendance.(13) The few months before this conference had revealed that the procedures being employed were lacking in uniformity throughout the platoons and in many cases, were slipshod and inaccurate. This marked the first time in which members of the 136th were active participants in the formulation of operating policy and paved the way for a later transfer of this function to the 136th.

At this meeting it was made clear that, although the logs being forwarded by the platoons contained many instances of violations of standard operating procedure by operators of various Air Force communications systems, only a comparatively few were identified accurately enough for a factual violations report being sent to the offender. It was concluded that, in general, this was caused by an ignorance on the part of the monitor operator of the subsequent use of the material which he was

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13. (a) Letter, Hqrs. 136th Signal Radio Intelligence Company (Avn) 370.2/0.6 Subj: Analysis of Radio Log Sheets 31 Jan. 1944.

(b) Letter, Hqrs. 136th Signal Radio Intelligence Company (Avn) 370.2/0.6 2 February 1944.

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intercepting, a lack of adequate recording equipment and the lack of a concise, simple method for the operator to make complete and clear notations that would enable the analyst, in turn, to make more accurate violation reports.

It was decided that the most immediate needs were;

a. Recording equipment to enable every operator to verify flagrant violations and also to aid in the recording of high speed transmissions.

b. Training of operating personnel in analytical work as soon as possible in order that the violations report might be initiated by the officer in charge of monitoring platoons. These reports would thus be more direct and more forceful since a great deal of their disciplinary and remedial value was lost by the lapse of time.

c. A simple set of symbols to be devised for the use by the monitor operators enabling him to explain more fully the discrepancies noted by him and to allow him to identify each transmission wherever possible.

An officer representative of the 136th was informed that these revisions would be his particular problem. Accordingly he spent some time with the analytical Section at Bolling Field to get a clearer picture of the problems confronting the operator and the analyst. At the same time, an enlisted representative of the analytical Section compiled a set of symbols which were tested for their workability. It was agreed that these symbols would be used on a trial basis. A sample log and a lesson outline for the presentation of the basic material to all of the monitor operators working at the 136th were prepared, as was an outline for a pamphlet to be sent out as an initial instruction sheet to all monitoring stations of the 136th.



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Chapter II -- Later Developments.

As a result of the survey conducted, additional recommendations included the furnishing of Signal Operating Instructions of units monitored by platoons of the 136th; a complete SOI covering all phases of the monitor operator's job; the violations reports initiated by officers in charge of monitoring platoons should be sent directly to the headquarters of the offending agency and an information copy of the report together with the log sheets to be sent to Headquarters AAF.

In order to more completely carry out its function as an agency monitoring radio transmissions within AAF radio networks, the monitoring section of the Operating Procedures Branch, Communications Control Division, established an Analysis Unit for the primary purpose of improving security in AAF radio transmissions and of attaining correct radio operating procedures.(14) This Analysis Unit was composed of one officer and 8 WACS who were responsible for the analysis and processing of all intercept material sent in by monitoring platoons of the 136th. It was planned that the 136th would absorb all of the functions of this Analysis Unit as soon as it was prepared to do the work. In preparation for this transfer of analysis functions a noncom of the 136th was placed on detached service to this Unit for the purpose of assisting in the training of its analysis personnel. During the few months that followed this Analysis Unit operating in the Baltimore Field Office of the Communications Control Division expanded and intensified its analysis procedures and

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14. Letter, AAF 380.01/1.5 18 Feb 44 AFACO/C-P3
Subj: Tentative Analysis Program.



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initiated the compilation of reference material including comprehensive data by areas and frequencies. At the same time, the system of citing individual violations of operating procedure was revised in favor of a new report called a, "Communications Improvement Memorandum", (CIM). These CIM's were to be submitted to the respective Air Force Communications Officers and were required to contain the following points:

a. Reference to existing regulations.

b. Error encountered.

c. Effect on Security.

d. Correct procedure.

e. Notation that the memorandum is forwarded for information and appropriate corrective action.

f. Exact copy of intercepted transmission.

Each platoon was to send a copy of all CIM's and a daily radio security report to the Communications Control Division through the 136th Signal Radio Intelligence Company, retaining one copy of each on file. Platoon commanders were cautioned against taking direct action against individuals, units or agencies responsible for violations, and were exhorted to emphasize education of personnel for security and related operational procedure improvement. In the writing of CIM's suggestions or implications for disciplinary action were to be avoided.

This new procedure of citing flagrant violations was given a try-out by one of the domestic sections to determine its efficacy and

was not extended to the overseas monitoring platoons until it had proved its worth.

## Additional Platoons.

By this time the value of monitoring AAF Radio Nets for security purposes and the improvement of radio operating procedure was meeting with ever-widening recognition. With the concretization and crystallization of operating procedures the mission of the 136th began to assume the definition and certainty which was lacking in its earlier years. To more adequately accomplish its mission on a global scale as authorized by War Department directive, the Table of Organization and Equipment under which it functioned was reorganized to enlarge the Company to 19 component Signal Radio Operating Platoons including 23 officers and 732 enlisted men.

In May 1944, in anticipation of the transfer of analysis duties from the Baltimore Field Office of the Communications Control Division to the Headquarters 136th Signal Radio Intelligence Company (Avn) there was set up a school for the training of analysts. It was contemplated that a group of 12 analysts headed by an analysis officer would perform all of the work which was being done by the Analysis Unit at the BFO.

Up until June 1944, the 136th Signal Radio Intelligence Company was functioning as a Signal Corps outfit with a Table of Organization which was originally drawn up for a regulation Radio Intelligence Company. In the light of the changed mission of the 136th, its

changed equipment requirements, and its exclusive Air Corps affiliation, it was decided to revise the Table of Organization and to transfer the personnel from Signal Corps to Air Corps.(15) Accordingly, a new Table of Organization (1-952) was published redesignating the outfit as Headquarters 136th Radio Security Detachment and its component units as Radio Security Sections, under the operational and functional jurisdiction of the Commanding General AAF, through the Air Communications Officer and Communications Control Division.

## Emergence of Headquarters 136th.

What was now needed was an overall comprehensive document which would set forth in detail the organization and functions of the 136th and its component sections. Such a document was drawn up by personnel of the 136th and was incorporated as AAF Manual 100-2, (later changed to 100-46-1). The manual clearly established the scope and purpose of the 136th Radio Security Detachment and its component Radio Security Sections. It delineated the functions of Detachment Headquarters Unit, including a training standard and a complete set of monitor operating instructions which had been previously prepared. Also a guide to the analysis of intercepted taffic, including examples, sample intercept log sheets and a C/W Violation Key Sheet. This C/W Violation Key Sheet represented an improvement over the key sheet which had been previously used in the

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15. General Order 2 Hqrs. 136th Signal Radio Intelligence Co. (Avn) 8 June 1944.

Chapter II -- Later Developments.

Baltimore Field office. It was supplemented a short time later by a Voice Violation Key Sheet compiled by several recently formed Radio Security Sections at Detachment Headquarters.

An Analysis section was established at Detachment Headquarters with carefully chosen and carefully trained analysts. At the same time, outlying Radio Security Sections were advised to select two high speed radio operators and train them as analysts to serve in that capacity in the respective Sections.

A completely revised and considerably improved reporting system was instituted to stem from both Detachment Headquarters and the Sections. Heretofore, Sections were not required to prepare any reporting material. They merely had to forward the monitor intercept logs to the Baltimore Field Office. With the development of a Section analysis unit it was now possible for the Sections to analyze, process and compile operational procedure data themselves. The value of this change to on-the-spot remedial action was considerably increased. As a check on the effectiveness of Section analyzing, the Sections were encouraged to submit copies of processed logs periodically to the Headquarters Analysis Staff where they were carefully re-examined to determine what shortcomings of analysis were present, if any, and for comment and suggestions.

By July 1944, they were ready to prepare a weekly Security and Operational Procedure Report. This report was divided into five parts, each one dealing with a separate phase of operational activity; Cryptographic Analysis - a tabulation of messages by type and code form; Frequencies - a listing of frequencies including; total time monitored, time idle,

number of messages per frequency and interference encountered on each frequency; Procedure - included a breakdown of all CW and Voice violations of operating procedure; Security - discussed violations which constituted breaches of transmission security; Operations - served as a clearing house for the exchange of ideas on operations between Detachment Headquarters and component Sections.

These weekly Security and Operational Procedure Reports (Short Title: SORDS) were forwarded by the Sections to Air Force and AACS Communications Officers in sufficient number to effect additional distribution to subordinate echelons. In addition, information copies of these SORDS were sent to Detachment Headquarters where they were thoroughly read by members of the Analysis Section. Here data were carefully extracted and were used to compile a Monthly Security and Operational Procedure Report (Short Title: SORD) consisting of five parts corresponding to the five parts named in the weekly Section reports. However, the approach here was based upon a review of all component Section material and as such was dedicated to presenting a monthly picture of security and radio operating procedure conditions existing throughout the Air Forces and commands monitored by Radio Security Sections. Most of the material at the outset was based upon operations of AACS, ATC, the 2nd, 3rd, 4th, 12th, 15th, Air Forces, and the Mediterranean Allied Tactical Air Force. This was later expanded to include virtually every Air Force and major command of the Army Air Forces.

During the fall of 1944, there was a good deal of feverish activity

in getting new Sections formed, trained and ready for overseas movement, such as the Detachment had never before witnessed. In all, six new Radio Security Sections were formed and were put through courses in radio code, and radio operating procedure and in conformity with the newly instituted program of the Detachment analysis training was given to those men selected to perform the duties of Section analysts and trick chiefs.

By the time Detachment Headquarters was ready to change its location from Ft. Meade, Maryland, to Reading Army Air Field, the last new section of the nineteen had been dispatched to an overseas port of embarkation.
(16)

The move of Detachment Headquarters to an Air Corps Base was necessitated by the fact that its previous location was an Army Ground Force installation. As such, there sprang up a feeling of mild antipathy which reflected itself in the quality of cooperation received by Detachment Headquarters.

It was also during this latter half of 1944 that the Detachment swung into high gear in the performance of its mission. The various procedures which had been recently originated by Detachment Headquarters and carried out by the component Sections had now become firmly established. Sections were now capable of rendering a more complete service to the controlling agencies which they were serving. The quality of work being performed on all fronts had improved to a point where weekly

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16. S. O. 85 Hqrs. 136th Radio Security Detachment 10 Nov. 44.

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reports were arriving at Detachment Headquarters steadily and abundantly. This enabled Detachment Headquarters to turn out a better monthly report whose quality and content caused it to be requested by an increasing number of organizations.

## Additional Officers.

From time to time, during this fall period, requests had been coming into Detachment Headquarters from Section Commanders for one additional junior officer to serve as operations officer.(17) These requests came mostly from Sections which had been functioning for some time. The reasons advanced for the additional officer were as follows: the duties of Commanding Officer, Supply Officer, Adjutant, and Operations Officer, all vested in one officer, were too much for him to handle efficiently due to the fact that numerous conferences and meetings were being held by nearly all communications units in order to establish policies and procedures to develop a secure and efficient communications system for the AAF. It was necessary that the Commanding Officer of the Section attend these meetings in order to coordinate his efforts to the best

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17. (a) Letter, 136th Signal Operating Platoon #3 26 May 1944
Subj: Assgmt of Additional Officer.

(b) Letter, AAF 322/2.3 AC/AS Personnel, MPD, Office of ACO, Comm. Control Division Subj: Assgmt of Additional Officer.

(c) Letter, 136th Signal Radio Operative Platoon #2 26 May 1944.
Subj: Request for Additional Officer.

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over-all advantage. This often took the Commanding Officer away from the Section leaving it without proper supervision. As a result, operations and missions suffered and when the officer returned from his pressing duties at conferences he was faced with a back-log of accumulated duties which could not, in many cases, be handled by the NCOIC. Moreover, in case of sickness or emergency leave of absence the Sections were left without an officer who was familiar enough with the highly technical work to properly supervise the Section. At Detachment Headquarters, where there were only four officers, there were none who could be spared to replace officers in Sections since Headquarters was occupied with training and equipping additional Sections to fill requests from overseas Air Forces and had their hands full with analysis duties. Since these same problems would be met by the recently established Sections it was anticipated that like requests for additional officer personnel for each Section would be forthcoming as soon as they began active operation.

(18)

On the basis of this situation a request was brought forward by Detachment Headquarters for 22 additional Radio Officers (0503). Nineteen officers were to go one each to the nineteen Sections as a subordinate officer and three officers were to augment the Headquarters staff of officers After one formal War Department disapproval and consistant disinclination to understand the requirement for two officers where only 36 enlisted men were concerned, the entire matter of the revision of TO&E 1-952 was reopened, and, finally, after more than a year of effort by the 136th,

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18. Letter, AAF 322/2 AFACO-G SD1 Management Control AC/AS Military Personnel Div. Subj: AAF Radio Security Monitoring Officers.

Chapter II -- Later Developments.

19 additional radio officers were authorized. However, no increase was granted Detachment Headquarters which was forced to continue with only four. Upon the factor of two officers for each Section it was decided that Section officers should take over more duties, alleviating the pressure on Headquarters officers. Although the change in the TO&E 1-952 was approved, the groups of new officers did not arrive until the last half of January and February 1945. Upon arrival they were immediately placed under an extensive training and indoctrination program at the end of which those officers considered unsuited to meet the high standards required by radio security work were eliminated and reassigned out of the 136th. The majority were successively assigned to Radio Security Sections until every Section had two officers.

Additional Sections.

In January 1945, the TO&E (19) was revised to include two additional Radio Security Sections, bringing the total to 21. This increase was occasioned by a request from the 20th Air Force for two units which could be used for a radio deception program which they were considering at the time. (20) It was felt that much time could be saved if instead of

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19. AG Letter 322 24 January 1945 Subj: Reorganization of the 136th Radio Security Detachment.

20. Hdqrs. AAF Letter Subj: Reorganization of the 136th Radio Security Detachment ACO, Organization & Training Division Individual Unit Requirements Branch.

creating new radio deception units, two new Sections were organized, again using experienced personnel from domestic Sections as a nucleus. However, the nature of the training this time occasioned a different emphasis. Officers and EM of these new sections were sent to Arlington Hall, Va., to undergo a two-week course in traffic analysis and radio deception given under the sponsorship of the Signal Security Agency. After the completion of training the units were made ready for overseas and were dispatched to their destinations during March and April in separate echelons to facilitate their movement.

At the time of activation, it was planned that these two new Sections would remain a part of the 136th and submit reports to Headquarters in the same manner as other Sections. However, upon making contact with the Communications Officers of the 20th Air Force it was found that authorities of that Air Force were reluctant to have these two new units responsible to any other Headquarters. The nature of their work was highly classified and the two Sections were subsequently assigned to (20A) 20th Air Force units and were no longer a part of the 136th Radio Security Detachment.

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20A. (1) General Orders 17, Section I 30 June 1945
Headquarters 20th Air Force, Pacific Ocean Areas APO 953.

(2) General Orders 41, Section I 18 Sept. 1945
Headquarters 8th Air Force, APO 902.

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# CHAPTER THREE

# PEAK

# OPERATIONAL PERIOD

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# CHAPTER III

## PEAK OPERATIONAL PERIOD

### Additional Reports

(21)

For several months negotiations had been carried on via correspondence between AACS Headquarters, Detachment Headquarters and the Office of the Air Communications Officer concerning the extension of AACS monitoring. Heretofore, only three Radio Security Sections were engaged in full time AACS monitoring. The new plan kept this arrangement and extended the AACS monitoring activities to thirteen additional Sections deployed globally. Weekly reports, CIM's and relative data were to be prepared separately by the Radio Security Section concerned and forwarded to the appropriate AACS Wing or Group Commander. These Section reports were to be separate from the regular weekly reports prepared for the Air Force being monitored.

Although AACS echelons had been recipients of the regular weekly reports (SORDS) prepared by the Sections and the Monthly Headquarters report (SORD), it was felt that a more accurate picture would be presented if those transmissions pertinent to AACS operations were segregated and given special consideration apart from the general run of AAF transmissions. Previous references to AACS transmissions in the regular monthly report (SORD) were characterized by fictitious call signs and place names since the report enjoyed a wide distribution beyond AACS. However, since the

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21. (a) Letter, Hqrs 5th AACS Wing APO 413 8 Feb. 45.
(b) Ibid: 1st & 2nd Indorsement.
(c) Hqrs. AAF AFACO, Ltr. Subj: Transmission Security 2 Apr. 45.
(d) Hqrs. 136th RSD Ltr. Subj: AACS Monitoring 20 Apr. 45.



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new report was to be sent only to AACS Wings and Groups, used only by personnel deemed trustworthy to handle information of a classified nature, the transmissions, call signs and place names were presented as they were actually transmitted. This put the finger of responsibility directly on the personnel making the transmissions, since they were not lost in anonymity, and enabled AACS supervisory personnel to hold each operator responsible for his particular transmissions.

In a similar manner negotiations were concluded between 136th Headquarters and ATC Headquarters with reference to preparing a separate report on ATC transmissions. The first report of this kind was published in July, 1945, and based upon the results of part-time monitoring of the Alaskan Division, ATC, Caribbean Division, ATC, South Atlantic Division, ATC, and Headquarters Ferrying Division, ATC. Again, as in the AACS report, call signs and place names which had previously been fictitious before the publication of a separte ATC report, were presented as actually used.

## Monitoring Achievements.

As an indication of both the condition of AAF Radio Net operations and the part played by the Sections of the 136th Radio Security Detachment in revealing these conditions, a survey was conducted in the early part of 1945 summarizing the results of world-wide security monitoring operations over a nine-month period. In all, more than three million security and procedure violations were recorded, of which over 62,000 were directly concerned with security. There were about 30 security violations which were particularly outstanding.



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## Chapter III -- Peak Operational Period.

The security violation which occurred most widely and most frequently was operator chatter and key play. Too many operators were unaware of the consequences of the idle chatter in which they engaged. This type of violation usually occurred during apparent lulls in traffic at which time an operator felt it was safe to chat over the airways with another operator. He was proceeding on the assumption that the period of no traffic would continue for an indefinite period. However, his mistake was in failing to realize that his monopoly of the channel made it difficult for someone else with a far more important use for it to establish contact. A frequency may be idle when the chatter begins but once the channels is occupied it is difficult for other stations to break in even though they may have legitimate traffic to clear. Stations indulging in idle talk have no way of knowing when another station is going to require the frequency for official use. In the following case it can be seen how operator chatter prevented an aircraft from making contact and caused it to be ignored even after the offending stations were aware of its presence.

GOOD MORNING IS ANYBODY SLEEPY
WELL I DONT THINK I KNOW BUD
GOOD MORNING TO YOU GOOD MORNING TO YOU
HOW ABOUT GIVING A CALL ABOUT 7:30 THIS MORNING
GOOD MORNING DEAR SINNERS GOOD MORNING TO YOU
MY BUT YOU FELLOWS ARE IN A FINE MOOD THIS MORNING
SHUT UP
SAY AGAIN DIDNT READ IT
UMBRIAGO UMBRIAGO
ANYBODY BEEN DOWN TO THE ZOO
SAY BUDDY DID YOU GO TO THE WONDER BAR THIS EVENING
ANYBODY HAVE A COUPLE OF EGGS
DO YOU HAVE A COUPLE OF EGGS
WHAT WOULD I DO FOR A COUPLE OF EGGS TOAST COFFEE RIGHT NOW
ID LIKE TO SEE HIS LOG WOULDNT YOU
SENTIMENTAL JOURNEY
SHE DONT
MY MOMMA DONE TOLD ME MY MAMMA DONE TOLD ME SO

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WHY XXX DONT SOMEONE ANSWER THAT AIRCRAFT
ID LOVE TO SEE ART CHILDS
BOY ARE YOU REALLY OFF

Another more marked example illustrates how the unauthorized use of an emergency channel kept it from being used to possibly save a life.

BLACKBALL BLACKBALL THIS IS MAGNET MAGNET
YOU BETTER CUT THAT OUT AFTER ALL THIS IS AN
EMERGENCY FREQUENCY

HELLO MAGNET IF YOU RECEIVE ME WILL YOU PLEASE STAY OFF
THIS FREQUENCY THIS IS AN EMERGENCY FREQUENCY

HELLO MAGNET THIS IS LAMARR RELAY LAMARR WISHES YOU TO
STAY OFF THIS FREQUENCY THIS IS AN EMERGENCY FREQUENCY

HELLO MAGNET THIS IS LAMARR RELAY LAMARR WISHES YOU TO
STAY OFF THIS EMERGENCY FREQUENCY YOU ARE CLUTTERING UP
THE AIR

WILL THE SHIP THAT WAS HIT BY FLAK PLEASE COME IN OVER

YOU BOYS WHO ARE DOING ALL THE TALKING ON THIS CHANNEL
PLEASE CUT IT OUT WE HAVE TO TAKE CARE OF THE BOYS
RETURNING FROM THE CONTINENT

1234567890 BLUE GOOSE 47 BLUE GOOSE 47 I AM GONNA
BAIL OUT IF THEY KEEP CUTTING ME OUT IM GONNA BAIL
OUT IF THEY KEEP CUTTING ME OUT

Many cases have been recorded of operators using official channels for the furtherance of their own unofficial business. One instance of this can be seen in the following logged transmissions.

CALL EILEEN IMI CALL EILEEN 308J IMI
CALL EILEEN TELL TELL HER IMPOSSIBLE IMI IMPOSSIBLE
TO KEEP IMI TO KEEP DATE IMI DATE EXPLAIN IMI EXPLAIN
SITUATION NAME IS EILEEN

Note; (Part of a conversation carried on intermittently for over 3 hours)

In addition, operator chatter and key play offer the enemy an excellent opportunity for locating Allied stations through the medium of Direction-Finding equipment. The longer transmitters are on the air unnecessarily

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the easier it is to locate the source of transmission. That enemy listening stations were able to determine the location of Allied aircraft, to chart their progress before, during and after a mission, to determine how many Allied aircraft crashed or were forced to land during a mission was substantiated by the enemy himself in a series of captured German and Japanese documents.(22) These documents indicated with remarkable detail familiarity with the composition of Allied Bombardment Divisions, their call signs, code words, battle formations, assembly points, number of planes shot down, where planes crashed, etc.

At least two ways of deriving information of such detailed nature are the interception and monitoring of R/T and W/T transmissions and through the use of D/F to establish aircraft locations. That these methods were employed by the enemy is born out in these same captured documents.

An additional host of security violations can be lumped together under the general heading, "Revelations and Compromises".

In one combat zone under observation there was a noticeable amount of indiscretion regarding VHF Voice transmissions from plane to ground.

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22. Captured G.A.F. SIGINT Service Document ZIP/SAC/P.3 Translation (partly summarized) of Intercept Report on English and American Bomber Units and 16 G.R. Group by No. 1 (Evaluation) Company of G.A.F. Wireless Listening Regiment West (Reporting Centre 1), covering the period 11th March - 10 April 44.

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Apparently no attempt had been made to use an authorized code system when discussing classified information. Practically all transmissions were made in plain text and the information disclosed was often highly classified. References were made to:

Destination of hospital ship, estimate time of arrival and number of patients aboard.

IFF and designation of home base of plane making the transmission.

Radio call signs associated with the identity of the station.

Radio call sign with its code name.

Cargo carried by plane.

Destination of shuttle service.

In another combat theater radio monitors keeping watch on only two frequencies extracted the following information from intercepted messages:

Three air strips on the island of _____. These strips carried a considerable amount of aircraft traffic since they were mentioned in many of the aircraft messages emanating from that area. The location of each airstrip was disclosed and the code word for two of them was compromised. By the process of elimination the code word of the third was also compromised.

Through succeeding transmissions, the monitors learned that there were separate units stationed on the island; a Troop Carrier Wing and a Troop Carrier Squadron, a Combat Cargo Unit, A Cargo Message Center, an Emergency Rescue Squadron, a Signal Message Center, and an Engineer Group.

Here are some examples:

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WILL YOU CHECK TO SEE IF TRANSPORTATION IS WAITING WE HAVE A GENERAL OFFICER ON BOARD

DO WE HAVE TO FILE A CLEARANCE TO GO UP TO name of airfield

MY DESTINATION IS name of airfield

NOTIFY THE ____COMBAT CARGO OF OUR ARRIVAL

I HAVE A LIST OF PASSENGERS ON BOARD FOR THE ___REPLACEMENT BATTALION

WILL YOU NOTIFY _____AIRDROME SQUADRON AND TELL THEM WE WILL BE ON THE GROUND IN FIFTEEN MINUTES

NOTIFY _____BOMB GROUP OF OUR ARRIVAL

WILL YOU ADVISE _____AIR FORCE ENGINEERS THAT WE HAVE A LOAD FOR THEM AND THAT WE WILL LAND AT name of airfield

WILL YOU NOTIFY THE _____ TROOP CARRIER WING THAT THIS IS THE CARRIER SHIP COMING IN.

Another breach of security occurring frequently was the compromise of tactical frequencies. It is obvious that if frequencies for contemplated use are not given over the air in the clear the enemy must make a laborious search of the frequency spectrum in order to pick up Allied frequencies. When such messages as "QSY 2222" (change to freq. ____) or "QSV 2223" (send a series of V's on ____) are sent over the air the job of the enemy radio intelligence monitor is greatly simplified. In the examples cited, the code word for the frequencies used should have been sent to guard the frequency from compromise. In the following transmission both the call sign and the frequency are compromised.

"ABC V DEF NR1 GR8 AAA WHAT IS CALL SIGN AND FREQUENCY FOR DELMONTE TOWER AAA KK"

"DEF V ABC -- CALL SIGN IS BALLET -- FREQUENCY IS 4444"



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The following excerpt from a log illustrates the compromise of codes and ciphers. Station PMG transmitted a message in code and was then informed by station PMQ that no card was available to decode the message It was then rebroadcast in the clear.

PMQ PMQ V PMG QAM PMG
K (PMQ)
V PMG QAM PMG NRUCOP 0900Z BT 1/1081 4/3024 R/T 9/R 11/E 12/C 14/B BT K
PMG V PMQ DONT HAVE CODE CARD
V PMG AS
PMQ V PMG INT K
PMG V PMQ K
PMQ V PMG QAM CLEAR IMI QAM CLEAR 0900Z BT 1 QFE 1018 AST 320 V ALT 3024 CIG UNL IMI CIG UNL VIS 8 IMI VIS 8 D EN E IMI WD E NE WS 19 PMG V PMQ R QAM TU

It is well known by now that an important part of the success of a mission was attributable to weather information. All sorts of codes were devised as a means of disguising weather data in messages. In spite of these precautions the necessary safeguards were not taken in many cases by communications personnel to guarantee the security of weather broadcast. For example, one Radio Security Section found that a communications Group in a combat area consistently preceded almost all of its weather messages with "WP" or "WX", indicating that weather reports were forthcoming. Enemy intelligence units knowing that these messages contained meteorological information were greatly aided in decoding them. This violation occurred as often as 123 times in one twenty-four hour period.

The transmittal of information concerning the movement of Very Important Persons aboard aircraft constituted another menace to security as well as to the lives of the persons concerned. Most General Officers are specialists in some particular phase of modern warfare and their loss would seriously hamper the smooth performance of important missions.

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With no other information than the messages intercepted, a Radio Security Section was able to follow the flight of a Lt. General from an airfield in one country to a city of another country-and back. Complete information was available in the transmission, including type of aircraft, pilot's name, departing date and estimated time of arrival. Although only one of the transmissions contained the General's name, the remaining ones concerning the General's flight were easily identified by the plane's call signs, the pilot's name and the phrase "VIP ABOARD" or "RANK ABOARD". Other examples of VIP disclosures are contained in the following messages intercepted on AAF frequencies.

"CHICLET FROM 123 YOUR INFORMATION WE HAVE THREE GENERALS AND AN AMBASSADOR ON BOARD OVER

123 FROM CHICLET WE DID NOT GET FIRST PART OF YOUR MESSAGE SAY AGAIN

CHICLET FROM 123 WE HAVE THREE GENERAL AND AN AMBASSADOR ON BOARD OVER

ROGER 123 WE HAVE THREE GENERAL AND AN AMBASSADOR ON BOARD

XER FROM SMT REFERENCE CONVERSATION WITH GENERAL (name of General) CAN HE COME HERE FOR PARTY SEPT TWENTY ONE OR TWO IS EIGHT AM AGREEABLE DATE IS AGREEABLE TO GOVERNOR SGD (name of Governor) BT K

"ATTN. GEN (name of General) BUM NUMBER THREE ENGINE X REQUEST CARBURETOR FROM (name of city) IMI (name of city ) MUST BE IN (name of city) TODAY PD REQUEST (pilot's name) WITH BAKER ONE SEVEN COME TO (name of city) (name of country) AT ONCE AND PICK ME UP AND TAKE ME TO (name of city) (name of country) BT ANSWER EXPEDITE SIGNED GENERAL (name of General)"

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One message intercepted in the South Pacific Area went so far as to inform a control tower that a plane was coming in with a "LOAD OF GENERAL OFFICERS"!

Nearly all Radio Security Sections found the breaking of radio silence foremost among their security violation listings. During the time a mission was in progress it was important that radio silence be observed. However, here too, security measures were lax. Observations disclosed the following:

Immediately upon becoming airborne, several aircraft would call the ground station for a radio check. Radio traffic logs clearly indicated the exact time of the beginning of a mission. No traffic was logged until shortly after "scramble" instructions were given. As soon as the aircraft became airborne, radio checks became voluminous in number. Careful perusal of the logs shows that within 18 minutes 27 radio checks were made by airborne aircraft. Checks were NOT made on days when no missions were flown. The enemy, therefore, needed little else to conclude that a mission was in progress.

Again, a Radio Security Section monitoring frequencies employed by B-29's in the South Pacific reported a serious security violation in the operating plan used in the beginning of missions. It was evident to anyone monitoring air-ground frequencies that a mission was about to begin because of the unprecedented testing and tuning by radio stations concerned with the B-29 air-ground communication. Radio Security personnel were able to correctly deduce the EXACT time that a B-29 mission started with no other information except that gleaned from interception. Traffic was relatively light until just before the start of the mission

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when the stations suddenly crackled into activity. One station in particular sent test signals and call signs for a period of SIX hours.

Aware of this danger, the Section operating in that Theater immediately informed the responsible persons. The following week another B-29 mission was in progress and although the radio monitors kept a continuous watch on the same B-29 frequencies, they were not aware that the mission had begun until the planes had been out for several hours and were required to ask for weather information. By following the security suggestions connected with the above instance, the bombing unit and its associated radio personnel effected a decided improvement.

Further compromises of call signs and code words occurred in large number. Call signs designated to aircraft on tactical missions or simulated tactical training missions are classified. For the purpose of security, these call signs are changed as often as is deemed necessary to prevent the enemy from becoming familiar with aircraft call signs operating in combat zones. The disclosure of one call sign was all that enemy traffic analysts needed to identify the type and strength of bomber or fighter squadrons embarking on missions. Cases were recorded where air-to-air operators used superseded call signs and subsequently associated them with the new call sign, thus compromising the new call sign. This led to easy enemy identification of the Squadron and from data on hand he could tell whether the Squadron was Bomber, Fighter or otherwise and know what to expect by studying past operations of that particular unit.

The following transmission exemplifies a compromised call sign.

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WWL V WWT WSX WSX IS IMI IS US IMI WSX IS US AR

WWT V WWL INT INT WWT WSX SAME IMI SAME

WWL V WWT I AM WSX IMI I AM WSX QQZ WWT AR K

In addition, code words were often subjected to compromise. Operators did not seem to realize the importance of code words and phrases which were compromised when used in the same sentence as the word whose meaning they were supposed to hide.

"WE CLEARED YOUR STRIP AND ARE GOING TO BIGTOP"

"WE ARE GOING TO LEYTE WE CLEARED YOUR STRIP"

"THE CALL SIGN FOR XZ3 IS YOKEL INSTEAD OF MICROBE"

"YOU ARE USING WRONG CALL FOR XZ3 THE CALL IS YCKEL

Another operational shortcoming leading to security breaches was the inadequate distribution of code and cipher cards. Not only was valuable transmission time consumed on already-crowded frequencies but classified information was revealed. This often came about when an aircraft would request weather or meteorological reports in combat areas. The receiving operator lacking the current code or cipher card asks for a repeat of the message in the clear. The result, of course, is a disclosure to the enemy of weather data and at the same time a compromise of the codes and ciphers in use.

An important breach of security regulations of which mostly officer personnel were guilty was the discussion of highly classified information over FM Radio Link channels. Monitors of Radio Security Sections upon different occasions uncovered several flagrant violations. It was through this medium of communication that the most highly classified types of operational information were disclosed by high-ranking officers who



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should have had a primary interest in safeguarding military information. Here is an example of a conversation which was intercepted at the height of Allied operations in Europe:

.....MAJOR____THIS IS COLONEL_____
YES SIR
I'M TRYING TO WORK OUT YOUR PLAN FOR TOMORROW AND WONDER IF YOU WOULD CALL (unit name) AND FIND OUT NOW WHEN THEY ARE GOING TO HIT THEIR TARGETS AND CALL ME BACK BECAUSE WE ARE GOING TO HAVE TO FURNISH FOUR GROUPS FOR ESCORT AND I WANT TO KNOW IF THEIR RENDEZVOUS TIME WILL BE BEFORE NINE O'CLOCK. IF SO THEN I CAN PLAN AN EARLY MORNING MISSION FOR THOSE PEOPLE, SEE.

ALL RIGHT SIR COLONEL (from Major)
AND CALL ME BACK WILL YOU (From Colonel)
SAY COLONEL IF YOU'LL JUST HOLD ON ABOUT TWO MINUTES I'LL GET ON THE OTHER PHONE AND CALL THEM. DO THAT WILL YOU
YES SIR

(Long Pause)

HELLO (From Colonel)
DID YOU GET (name of group) (from operator)
YES I DID THANK YOU JUST HOLDING THE LINE HE'S TRYING TO GET A MESSAGE FOR ME.

(Another Pause)

THIS IS COLONEL_____
YES SIR
WE'RE GONNA HAVE TO GIVE YOU FOUR GROUPS FOR ESCORT OF YOUR MEDIUMS TOMORROW.
I WONDER IF YOU COULD TELL ME THE APPROXIMATE RENDEZVOUS TIME
ALL RIGHT .....
THAT'LL MAKE RENDEZVOUS TIME ABOUT SEVEN THIRTY (Colonel)
THAT'S RIGHT
NORTH OF THE___PENINSULA. OK NOW IF THE WEATHER IS BAD YOU'LL POSTPONE THAT UNTIL LATER IS THAT RIGHT
THAT'S RIGHT.....STARTS GUMMING UP AROUND NINE OR NINE THIRTY AND THE WEATHER GETS BAD THAT WAY STARTING AROUND NOON

YEAH, WELL WHAT TIME WILL YOU KNOW DEFINITELY WHAT YOUR RENDEZVOUS TIME WILL BE
WE PROBABLY WONT KNOW UNTIL AFTER--HARD TO SAY HOW EARLY BUT SHOULD KNOW WELL AFTER TWELVE O'CLOCK
OK(Colonel)
ALL RIGHT THEN
THANK YOU (Colonel)

On another occasion, FM Radio Link channels very close to battle areas were monitored and the following information was extracted from

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the conversation;

The location of the Headquarters of a Bombardment Division.
The Headquarters of an Air Force.
A Security Service Company.
A Signal Company Depot (Avn).
The location of a large motor pool.

A town near the front, Reindeer 6162, was discussed at length during which the kind of defense strength thrown around the town was discussed and was referred to as "ALRIGHT", "OKAY" and "PRETTY GOOD". If enemy intelligence had had any information as to the meaning of the code word "Reindeer 6162", it would have been that much harder to effectively defend the town.

Stock piles and equipment in an AAF ammunition dump were discussed and different types of bombing equipment and the types of bombs on hand were mentioned.

In another conversation it was disclosed that an Aviation Engineering Battalion Headquarters was at a well known city. Another Engineering Battalion was found to be moving to one of two other cities. The condition of roads was discussed. Descriptions and conditions of buildings which were at one time the Headquarters of Field Marshal Rommel were discussed and named as the site where the Engineering Battalion was moving.

The Zero hour on tactical plan "B" was revealed as ten hundred hours. Later plan "B" was revealed as being an aircraft mission.

Later on, when the Pacific phase of the war had increased in importance an FM Telephone Link security breach was encountered. As in other instances, officers of field grade were responsible. Some conversation topics intercepted concerned;

PLANS FOR FUTURE OPERATIONS.

RENDEZVOUS OF BOMBERS WITH FIGHTERS IN DEGREES AND MINUTES.

UNIT NAMES AND LOCATIONS.

BOMBING TARGETS.

COMPLEMENT, AS TO MISSION PERSONNEL, AND TYPE AND NUMBER OF AIRCRAFT.

PERSONNEL LOSSES.

WEAKNESS IN SUPPORT, LIABLE TO ENEMY PENETRATION.

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The foregoing examples of security violations are only a few of the more common and more serious types with which the Sections came in contact while monitoring AAF frequencies.[23]

There were many others, "Failure to guard frequency" was encountered often. The effects of such laxity are obvious. Personnel returning from bombing raids or strafing missions often in immediate need of information or guidance from radio stations failed to get the much needed information because they found no one guarding the frequency.

Authenticators and the code color of the day were often compromised by pilots who had been insufficiently briefed or who were careless in securing all the necessary information before becoming airborne. Messages asking for the color code of the day were often made in the clear and the information unwisely given in plain text. Authenticators were often compromised by being used repeatedly over the same channels each day.

Extended length of test signals and unnecessary soliciting of traffic tended to clutter channels with needless transmissions. Operators often had the habit of calling all other stations in their net periodically throughout the day and asking if the station had any traffic for them. It is logical to assume that if an operator has traffic to clear with another station that he will do so without requests from other stations. Nets which engaged in excessive test signals and unnecessary soliciting of traffic usually showed corresponding inefficiency in clearance of traffic. To maintain an orderly flow of traffic an operator must listen before transmitting to see if the channel is occupied. When he first

23. All of the examples cited were taken from different weekly Security and Operations Reports prepared by Radio Security Sections at their location throughout the world.

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begins to listen it takes several minutes for him to acquaint himself with the nature of the traffic being transmitted. He has to determine whether it is official traffic or whether it is unnecessary chatter, key play, testing and tuning or otherwise. This consumes valuable time. If all transmissions were cut to the bare minimum, a corresponding healthy condition would result in the clearance of traffic.

Operators often developed characteristic sending habits which endangered the safety and security of radio communications. It was hard to impress an operator with the importance of attaining as nearly as possible a technique comparable to machine sending. The natural question which an operator asked was, why was it a security violation to develop a characteristic swing in keying? The answer lay in the fact that enemy traffic analysts were often able to identify movements of groups and units simply by familiarizing themselves with the inherent qualities or peculiarities of an operator's keying and thus be able to trace them from one place to another. The presence of an old familiar "fist" in a new sector of a battle front often indicated that reinforcements had been altered or changed altogether. Many CIM'S were sent to stations where operators were developing their own style of sending pointing out the serious consequences which might arise from such habits.

The careless habit of leaving a transmitter turned on while using the inter-communication system in bombers permitted the broadcasting over the air of all conversations carried on between pilot, bombardier, gunners and crew. This was a rich source of information for the enemy.

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It was with these dozens of security aspects of communications that the Detachment and Sections worked ceaselessly, pointing out to communications personnel these conditions and making suggestions as to how to combat and control them.

While these foregoing violations were clearly security breaches, there were other more numerous violations of correct radio operating procedure which likewise affected security, though less obviously, and hindered the rapid and efficient clearance of important messages. However it was not always clear to radio users how minor radio operating procedure violations affected security. A large number of these violations proved to be a productive source of information to enemy traffic analysts, in addition to having the following consequences:

(a) Messages took longer to transmit and receive.
(b) Extra transmission time, valuable in tactical areas, was unnecessarily consumed.
(c) With air waves cluttered, receiving conditions generally were poor.
(d) The over-all number of messages cleared decreased as the number of violations increased and lowered net efficiency.
(e) Failure to conform to standard procedure in general caused confusion and misunderstanding and contributed to the misinterpretation of vital information contained in messages.

The reports on Security and Operational Procedure which emanated from both the Radio Security Sections and Detachment Headquarters and which were based upon extensive monitoring activities revealed during the nine-month survey conducted that there were almost three million violations of correct radio operating procedure committed by AAF radio users. These could be broken down into twenty-five most frequently occurring CW

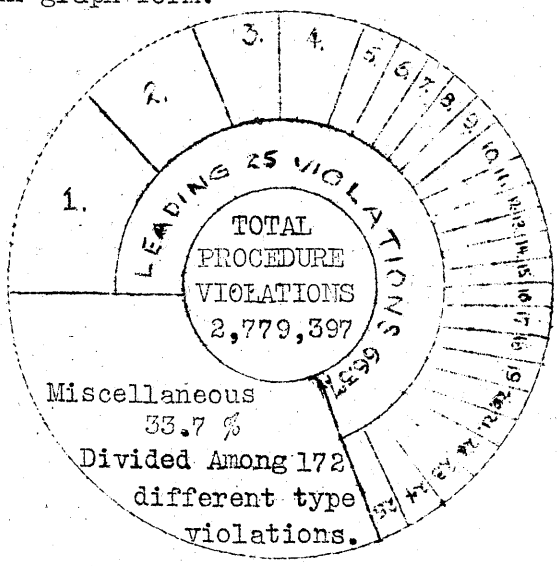
Chapter III -- Peak Operational Period.

violations and are herein presented in graph form:

25 MOST FREQUENT

CW PROCEDURE

VIOLATIONS




| NO. | VIOLATION | PERCENTAGE |
|---|---|---|
| 1. | Omission of AR or K at the end of transmission. | 12.0% |
| 2. | Use of AA to indicate continuation of transmission. | 5.6% |
| 3. | Use of more call signs for the receiving station than for the transmitting station or vice-versa. | 3.1% |
| 4. | Unnecessary receipt for transmission. | 3.1% |
| 5. | Excessive repetition of operating signals. | 3.0% |
| 6. | Excessive use of R. | 3.0% |
| 7. | Use of IMI as an erase sign. | 2.9% |
| 8. | Use of E as a receipt. | 2.8% |
| 9. | Failure to transmit last complete group received when requesting a repetition. | 2.6% |
| 10. | Use of BT for break-in. | 2.6% |
| 11. | Failure to follow a series of V's with the proper call sign when testing. | 2.3% |
| 12. | Excessive use of K. | 2.2% |
| 13. | Starting transmission with R. | 2.1% |
| 14. | Use of a series of E's for Break-in. | 2.0% |
| 15. | Use of ham expressions (such as HW, FB, CUL, OH, etc.) | 1.9% |
| 16. | Excessive use of separative sign. | 1.8% |
| 17. | Omission of IMI. | 1.7% |
| 18. | Failure to use T as break-in. | 1.7% |
| 19. | Excessive use of AS. | 1.5% |
| 20. | Misuse of AA as break-in. | 1.5% |
| 21. | Operators playing with key. | 1.5% |
| 22. | Use of abbreviated call signs (such as TU, XE, SJ, etc.) | 1.4% |
| 23. | Failure to use the separative sign before and after all prosigns in the call, preamble, and address, except V, AA, & NR. | 1.4% |
| 24. | Use of T to mean Zero instead of five dashes. | 1.3% |
| 25. | Use of XE as a separative sign. | 1.3% |
| | Miscellaneous. | 33.7% |

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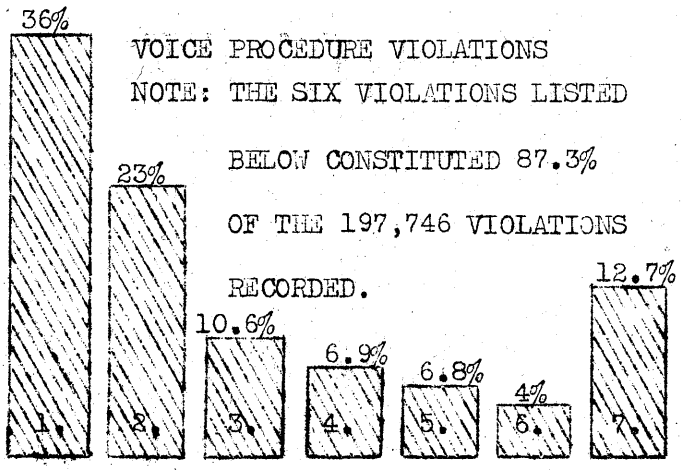
Of these 3 million violations, almost two hundred thousand were committed on VOICE channels. It is interesting to note that only six different violations accounted for over 87% of the total. Stress was continually laid upon the fact that if these six voice violations were removed, voice channels would have been free of the major obstacles to the smooth, rapid and efficient clearance of traffic.

The following graph, will illustrate the preponderance of these six leading voice procedure violations:




VOICE PROCEDURE VIOLATIONS
NOTE: THE SIX VIOLATIONS LISTED BELOW CONSTITUTED 87.3% OF THE 197,746 VIOLATIONS RECORDED.

| NO. | Type of violation | Percentage |
|---|---|---|
| 1. | Omission of "OVER" or "OUT" | 36.0% |
| 2. | Omission of the words THIS IS | 23.0% |
| 3. | Use of OKAY, PLEASE, UNDERSTOOD, THANK YOU, ROGER DODGER, etc | 10.6% |
| 4. | Use of the word FROM instead of the words THIS IS | 6.9% |
| 5. | Omission of the transmitting station's call sign where necessary | 6.8% |
| 6. | Improper position of ROGER | 4.0% |
| 7. | Miscellaneous (divided among 89 different types of violations) | 12.7% |

Chapter III -- Peak Operational Period.

The greatest difficulty on the part of radio operating and other communications personnel was their failure to realize the threat to security which was inherent in their failing to adhere strictly to prescribed radio operating procedure and the operating instructions contained in various regulations, letters, memos and prevailing Signal Operating Instructions. While it was comparatively easy to convince an operator that he was endangering the security of a mission by the careless revelation of vital information, it was much more difficult to make him understand that an almost similar threat to the safe and efficient accomplishment of a mission or other important military tasks existed in his failure to follow the book in radio operations.

For example, it was not clear to him that tabulations of trivial violations over a period of time could show clearly how each Air Force developed procedure habits which were outstanding and peculiar to itself. As lower echelons were studied, it became increasingly obvious that it would be easy for a large well trained group of analysts to identify the various commands and their activities within an Air Force by their procedure habits. This identification by peculiarity of procedure habit cancelled the value of changing station call signs in an effort to conceal the identity and operations of tactical commands and aided the enemy in keeping trace of AAF units as they changed localities. Thus, it was noted that operators in fixed or semi-fixed stations such as those operated by AACS have a tendency to commit one type of violation while operators in tactical units or training units within the various Air Forces had tendencies in another direction. Outstanding violations

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by these latter units concerned the excessive use of procedure. Fixed station operators, however, had a tendency to use unauthorized short cuts in procedure, falling back upon commercial, ham or self-styled signs and signals. This use of "ham" procedure and other original shortcuts were resorted to in cases of ignorance of correct procedure or the self-styled impression of the individual operator that his way was shorter and therefore more efficient.

During all this time, the over-all Monthly report on security and operational procedure put out at Headquarters, was gaining in circulation and distribution. From an initial distribution of 75 copies, the circulation increased to 720 in the summer of 1945. What was more important was that the report was now getting down into the actual classroom of radio operating instruction. At the outset, only higher echelons of command and supervision received the report. The report was received with particular interest by Continental Air Forces who were responsible for the training of radio operating and communications personnel and extended the distribution of the report to their constituent air bases.

## Radio Teletype Monitoring.

Developments in several Sections of the Detachment had indicated an acute and growing necessity for the establishment of Radio Teletype security monitoring within the AAF. Stimulated by these indications

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several members of Detachment Headquarters paid a visit to the War Department Signal Intelligence Center at Arlington Hall.[24] Examples of AAF Radio Teletype Intercept were viewed and it was found that approximately one-third of the logged material consisted of unauthorized transmissions, an open field for security violations. This indicated that no serious effort was being made to supervise and control RTT traffic and that apparently little or no time was being expended upon self-monitoring in order to ascertain the RTT security and operating procedure conditions. Action was therefore initiated by the 136th to institute a system of RTT monitoring of AAF radio teletype networks. Many weeks passed during which negotiations were carried on for the establishment of this monitoring program and for the procurement of the necessary RTT receiving equipment. In the midst of these negotiations, victory in Europe was accomplished and several months later while attempts were being made to procure the equipment and send it out to designated Sections, victory over Japan was effected. Thus, the active phases of the war were over before any radio-teletype monitoring could be accomplished.

## Post V-J Day Period.

With the cessation of hostilities in Europe and the subsequent elimination of tactical and strategic aircraft missions a great percentage of aircraft traffic was eliminated. This, in turn, caused a similar

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24. Letter 136th Radio Security Detachment RSD 413.44 22 March 1945 Subj: Radio Teletype Security Monitoring.

decline in the amount of traffic being intercepted by Radio Security Sections in the European Theater of Operations. During the interval between V-E and V-J Day, the work of the Sections continued on a greatly reduced scale. Controlling agencies monitored remained the same with the exception of the high percentage of decrease in all kinds of traffic. This situation continued to a point where further monitoring was purposeless.

By the same token, the Section weekly reports (SORDS) were forwarded to Detachment Headquarters in considerably decreased numbers. It was felt at Headquarters that an insufficiency of monitoring data did not permit the publication of the customary monthly Security and Operations Report (SORD). Instead, it was decided to publish this report on a quarterly basis. The first such was written to cover the period January to March 1946.

After the promulgation of the War Department demobilization directives, steps were taken by Headquarters 136th to discharge those men in its outlying Sections who were eligible by reasons of Adjusted Service Rating score. At first, highest point men were sifted out of Sections and assigned to Theater units Scheduled for return to the States and subsequent discharge. Then, as the ASR score was lowered, a survey was made of personnel in all Sections with points near the critical score for the purpose of gathering together in one or more Sections these higher point men so that they could be returned to the States as a Section and be discharged.

In accordance with this procedure, twelve Radio Security Sections were inactivated between August 1945 and January 1946 as follows:

Tenth Radio Security Section 6 August 1945 (a)
Twenty-First Radio Security Section 20 Sept 45 (45)

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A. General Order 17 Hqrs 20th Air Force APO 953 30 June 45 amended 15 July 45 by General Order 22 same Headquarters.
B. Ibid.

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Fifth Radio Security Section 13 Oct. 45 (c)
Nineteenth Radio Security Section 14 Nov. 45 (d)
Eleventh Radio Security Section 30 Nov. 45 (e)
Twelfth Radio Security Section 30 Nov. 45 (f)
Fourth Radio Security Section 4 Dec. 45 (g)
Eighth Radio Security Section 25 Dec. 45 (h)
First & Fourteenth Radio Security Sections 28 Dec. 45 (i)
Ninth Radio Security Section 3 Jan. 46 (j)
Seventh Radio Security Section 7 Jan. 46 (k)

This period of demobilization left its mark upon the 136th just as it did upon the rest of the armed forces. From a peak strength of 21 Sections and a Detachment Headquarters, including 46 officers and 785 enlisted men, the Detachment was successively reorganized downward to 19 (L) Sections in May 45, to 15 Sections in Oct. 45 (M) and to 9 Sections by Jan. 46. In effect, however, only 7 Sections remained since two Sections - the 13th and 16th - existed as "paper" Sections with no personnel.

By the end of April, what remained of the 136th was a shell containing about 49 enlisted men and 21 officers. In most cases, operations were discontinued in the Sections. Attempts were made by Headquarters to obtain replacement personnel with little success. Only a trickle arrived.

* * * * * * * * * * * *

C. GO 74 ASF NYOPE Camp Kilmer N.J. 12 Oct. 45.
D. GO 49 Hqrs VIIIth Fighter Command 14 Nov. 45.
D. GO 20 ASF Northeast Ft. Lewis Staging Facility, Washington 30 Nov. 45.
F. GO 90 Hqrs 8th Air Force APO 902 29 Nov. 1945.
G. GO 16 AAF AACS 64th AACS Group 4 Dec. 45.
H. Memorandum Hqrs ASF San Francisco Camp Stoneham 24 Dec. 45.
I. GO 322 Hqrs U.S. Forces India-Burma Theater 24 Dec. 45.
J. A.G. 322 3 Jan. 46 Hqrs XII Tactical Air Command APO 374 US Army.
K. Processing Order #SFS-179 Hqrs ASF 5 Jan. 46.
L. WD AGO 322 OB-I-AFRPG-M 25 May 45
M. WD AGO 322 OB-I-AFRPG-M 30 Oct. 45.

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# CHAPTER FOUR

# RADIO

# SECURITY SECTIONS

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# CHAPTER IV

# RADIO SECURITY SECTIONS

## Organization

The individual Sections of the 136th Radio Security Detachment were designed to work in close coordination with Communications Officers of Air Forces, AACS Groups and Wings, ATC Divisions, and Tactical Commands engaged in Air Operations.

The Sections were flexible mobile units capable of rapid change in location. Equipment was such that it could be quickly loaded into trucks and transported to any desired operations site. The TO&E was designed to permit one or more monitoring positions to be detached from the Section and travel to desirable locations within reasonable distance of the Section operations site.

All Sections were attached but not assigned to their respective commands and personnel remained under the Zone of Interior troop basis, not chargeable against the troop basis of any field unit to which they were attached. Any changes incident to transfer of Section personnel or equipment issued through the Headquarters 136th Radio Security Detachment were coordinated with Headquarters AAF.

Each Section was composed of two officers and 36 EM. Sections provided their own Mess, Supply, Transportation and Radio Maintenance facilities. The 27 radio operators, working in shifts, carried on continuous 24-hour monitoring when conditions permitted or when it was necessary in accomplishing a mission.



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Chapter IV -- Radio Security Sections.

Equipment

The equipment of each Section was built around the Radio Intercept Centeral TC-9 and consisted of the following major items:

5 each Radio Receiver BC-342
3 each Radio Receiver BC-344
2 each Radio Receiver BC-787
1 each Radio Receiver BC-794
1 each Radio Receiver BC-969
1 each Recording Equipment (Tape)
1 each Recording Equipment (Voice)
3 each Panoramic Adapters
1 each Telephone Switchboard BD-72
1 each Monitoring Switchboard BD-129
1 each Signal Generator I-72
1 each Teletypewriter Set (EE-97-C)
10 each Typewriter MC-88
1 each Power Unit PE-95

The following items are included in the Table of Equipment to supplement those in each Central TC-9:

1 each Freq. Meter TS-174-()/u.
2 each Radio Set SCR-244 (Super-Pro or SX-28)
3 each Radio Set SCR-607 (Same as BC-787)
1 each Radio Set SCR-616 (150-600mcs.)
2 each Radio Set SCR-704 (Same as BC-794)
4 each Recording Equipment RC-179
2 each Frequency Meter Set SCR-211
2 each Signal Generator I-150
1 each Power Unit PE-75
1 each Trailer K-52

Incidental equipment and the necessary spare parts are included in the equipment list of each Central TC-9, and numerous other items or parts and equipment are also included in the Table of Equipment.

In addition to the components of each Central TC-9 and the supplemental equipment listed, one Gray Dual Variable-Speed Recorder was supplied each

Chapter IV -- Radio Security Sections.

Section and the Headquarters Detachment. This recorded code or voice transmissions and was further capable of reducing high-speed code transmissions to a copyable speed.

## General Over-all Mission

The Sections upon arriving in the Theater were given very little help in choosing an operations site and getting set up. It was usually left up to their own initiative to take what buildings were available, if any, and make them habitable. After contacting the Air Communications Officer of the Command to which they were attached and setting up housekeeping facilities the task of the Sections was that of monitoring AAF frequencies, intercepting all transmissions on these frequencies and recording them for further processing and analysis in an effort to improve communications in general and integrate into the communications system a sound security aspect. The missions were of two types, regular and special.

## Regular Missions

Regular missions consisted of monitoring, recording, analyzing, classifying and categorizing the intercepted traffic and the publication of a weekly report(SORDS) bringing to the attention of responsible officers the shortcomings of communications on the frequencies under observation, the causes of delay in clearance of traffic, efficiency or inefficiency of personnel on duty, procedure discrepancies, security

violations and making suggestions for remedial measures where necessary. In addition to the weekly publication of reports to the Theater officers, individual CIM's were written to violating agencies apprising them of their violations and the effects on communications and missions.

## Special Missions

Special missions consisted of dealing with communications problems of an unrelated nature. They were usually pertinent only to a certain small area or embraced communication problems of reception or interference only on a certain channel. They often lasted only a short time, usually from 24 hour periods of observance to a week's study of conditions. These subjects were not given wide dissemination as were the Regular Missions which were handled in the weekly publications but served usually to help an officer or group of officers to deal with a communication problem requiring monitoring treatment which could best be performed by a Radio Security Section.

## First Radio Security Section.

The 1st Radio Security Section throughout the major part of its operations was located at Gushkara, India. It was attached to Headquarters 10th Air Force for whom it performed most of its monitoring missions. In addition, it monitored channels of the 20th Bomber Command, India-China Division of the ATC, Third Tactical Air Force, 14th Air Force, 8th Photo Reconnaissance Group, the Eastern Air Command, the 4th AACS Wing, Headquarters Air Service Command and other subordinate AAF Command

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Chapter IV -- Radio Security Sections.

Units.

This Section intercepted AAF transmissions through routine round-the-clock monitoring with primary interest centered around violations of security and radio operating procedure. Monitoring was conducted on a three-week basis during which time the number of positions worked would depend upon the nature of the mission, number and condition of the men. Recordings were made of serious violations and went through a checking process-trick chief, and analysis section-before the CIM relating to the violation was forwarded to the headquarters of the violating agency. Care was taken to indicate in the body of the CIM that a substantiating recording was available on file.

During the hot months, what would have amounted to a loss of analysis man-power was prevented by a previous training of the radio operators in analysis and other duties.

This Section in its weekly reports was very careful to present in great detail the results of its monitor-intercept. Emphasis was placed on graphs and charts presenting a percentage picture of procedure conditions on radio nets. Graphs and charts broke down the analysis into procedure errors per operational hour and minute and also indicated which violations had experienced a decline. Different Air Force units were contrasted with respect to violations.

This, in the main, was the routine week-to-week monitoring mission of this Section.

From time to time, missions of a special nature were requested. These missions were assigned by controlling agencies through the medium of

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inter-office memos, letters and radiograms. These special missions consisted of monitoring channels for sources of interference, net discipline, off-frequency operations and the use of speed keys. Controlling units of offending agencies would receive duplicate copies of intercepted traffic, which in turn were sent to violating operators.

Results of these special missions revealed that interference stemmed from both simultaneous transmissions and unknown stations. Net discipline on the whole was lax, giving rise to a letter from Headquarters Air Force to subordinate units acquainting them with the laxity of net discipline and admonishing them to get on the ball. As a result, classes in radio operating procedure were implemented.

The Section Commander paid monthly visits to the Air Force Air Communications Officer for the purpose of more effectively coordinating the assignment and performance of monitoring missions. One of the results of these discussions, was the preparation of radio security posters by personnel of the 1st RSS distributed and displayed throughout units of the 10th Air Force. These posters carried sketches and legends pointing out pitfalls of radio security and operating procedure violations.

An operating innovation introduced by this Section and later extended to several other component Sections was the practice of using teletype paper for log sheets to permit continuous copying.(25)

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25. Extracted from Historical Data of the First Radio Security Section covering the period 1 Jan. 43 to November 1945.

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## Second Radio Security Section

The 2nd Radio Security Section was the first monitoring Section to operate in the field. It was established in the middle of 1942 for the purpose of improving security and clearing up chaotic traffic conditions on radio channels along the North Atlantic route of the ATC. In addition, it was also assigned the important mission of monitoring German and Italian Weather broadcasts. The results of this type of monitoring were sent by direct wire to Washington, D.C. In the fall of 43 the mission of this Section was changed to monitoring transmissions of the 66 AACS Group covering the North Atlantic area.

In addition to this type of operation the Second Radio Security Section served as a training unit for intercept operators of the 130th Radio Security Detachment who later became the nucleus of additional Radio Security Sections.

The routine monitoring mission which was conducted on a twenty-four hour seven-day week basis consisted of monitoring AACS ground stations and ATC aircraft for violations of security and radio operation procedure.

Special missions were performed from time to time for both the ATC, North Atlantic Division and the 66th AACS Group. These consisted of checking for unauthorized use of speed keys, checking to ascertain whether stations were starting weather broadcasts on time and keeping within the alloted time, checking to see if aircraft stations were using modulated CW, checking frequencies for interference conditions and checking frequencies for AACS to determine the extent and volume of traffic

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carried by them.

Because of the semi-permanent nature of the installation of the Second Radio Security Section, located at Presque Isle, Maine, throughout the war, it was possible to have constructed a superior receiving antenna set-up. Its receiving propensities were so excellent that it was able to intercept stations ranging from Greenland and Newfoundland to Bermuda, The Azores, Africa and Great Britain.

Here, too, monitoring was conducted on a twenty-four hour, seven-day-week basis. Mission assignments in the beginning were made from the Directorate of Communications in Washington,D.C. and later were received from 66th AACS Group Hdq. and NAD-ATC Hq. via both correspondence and cable.

The important aspects of the work performed by this Section were contained in the observation that the North Atlantic Division of the Air Transport Command was continually carrying on flights between active and inactive theaters of war. In this way radio operating personnel aboard the aircraft were wont to transport any slovenly sending habits and operating laxities developed and nurtured in inactive theaters to active theater where they were of greater consequence.

The Second Section was instrumental in clearing up the chaotic conditions which existed in the radio nets in the North Atlantic Area. The transmissions of the AACS and ATC were analyzed separately and reports rendered to the respective agencies. The material set forth in these weekly reports gave an over-all, week-by-week picture of security and

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the efficiency of communications in that area and greatly aided the efforts of Communications officers to perfect a better system of communications in their respective commands.(26)

## Third Radio Security Section

The 3rd Radio Security Section started operations at McChord Field, near Tacoma, Washington. There was a need for monitoring AACS and AAF traffic on the West coast and also the Alaskan Theater. When the Section first began operating it was believed that it might be possible for one Section to handle the traffic-when the Alaskan theater became more active. However it was decided that an additional Section be sent to Alaska and the Third Section was subsequently moved to Daly City, California, where it remained in operation.

Among the early missions assigned to the Third Section was that of monitoring all weather broadcasts possible to intercept in an area embracing Australia, Alaska, Samoa, New Hebrides Islands, Hawaii, New Caledonia, Fiji Islands and the domestic stations located on the west coast of the United States. The mission continued until each station had been monitored for two 24 hour periods.

Other early missions included the monitoring of AACS and AAF frequencies in an effort to improve operating efficiency and report on security and operational procedure violations. From time to time,

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26. Extracted from Historical Data of the Second Radio Security Section covering the period 13 June 42 to 31 December 1945

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other special missions of a minor nature were assigned by the Directorate of Communications.

The major part of the time spent in monitoring activities was expended on frequencies in use by the 4th Air Force. The 4th Air Force, a training Air Force, was in the process of equipping and training Bomber Squadrons, Fighting Squadrons and hundreds of Air Crews slated for overseas operation. It was highly important that these crews achieve expert efficiency in radio communications and be aware of the requirements of security regulations and the importance of adherence to these regulations before going into active combat theaters.

In addition to the permanent monitoring activities carried on at Daly City, the Third Radio Security Section sent out numerous mobile units to carry on monitoring missions at various training Air Fields throughout the West Coast area. In this way, it was possible to give "on-the-spot" monitoring service to a large and varied number of training units while they were in training and actually carrying out simulated tactical missions which were to be the forerunners of the real thing later on.

At the request of the Fourth Air Force Signal Security Officer, one mobile mission was sent to Santa Rosa Army Air Field, California, to monitor Very High Frequency air-to-ground transmissions. This was the first mobile mission of the Section. A preliminary trip had been made to Santa Rosa in order to choose a suitable operating site, and prepare for the rationing and quartering of the men. Two, two-and-one-half ton trucks were used for the trip, one to carry the radio equipment and one to carry the men and their clothing. The Assistant

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Communications Officer of the Base Unit supplied the men with an additional power unit and a field telephone line to the truck. The trick chief of the mission worked in close harmony with the Communications Officer in charge of the radio training of P-38 pilots. During the time they were located at Santa Rosa, the unit intercepted sufficient violations to be of great aid to the Communications Officer in his orientation of the pilots on correct procedure and the correct application of security measures.

The five men carrying out the mobile operation were busy sixteen hours per day, six days per week, intercepting transmissions and marking the logs. Each day, the trick chief made out a duplicate set of violations total sheets, and gave one set to the Air Force Assistant Communications Officer. In addition, when a serious breach of security or operating procedure took place the trick chief would immediately type out an extract for the use of the Communications Officer, thus eliminating any serious delay.

The results of the mission were twofold: first, the pilots in transitional training could be corrected before going overseas. The violation total sheets, violation key sheets, and the two Security Operations Reports provided excellent instructional material; secondly, the Section operators learned to work with VHF equipment which gave them valuable educational experience which they could pass on the rest of the Section personnel upon completion of the mission.

Another mobile unit was sent to the Los Angles area to monitor the Los Angeles Control Group. Frequencies monitored where those used for Aircraft Warning and Fighter Control which included Frequency Modulated,

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High and Very High frequencies on both CW and Voice.

After completimg the mission and turning over to the Communications Officer all data together with suggestions for improving net efficiency the unit moved on to Mines Field and immediately set up operations on a level spot about 660 yards from one of the Anti-Aircraft Artillery transmitters which were to be monitored. They were attached to the 747th Anti-Aircraft Artillery Automatic Weapons Battalion which were to be monitored together with the 762nd Anti-Aircraft Artillery Gun Battalion. Excellent cooperation was received from the units monitored and the communications personnel advised of methods to be used in increasing the efficiency of their communications.

A mobile unit was later sent by train to San Diego where they monitored the San Diego Area Control Center. The operations site was well situated atop a hill and reception was excellent. A total of 36 frequencies were monitored including 15 Very High Frequencies air-to-ground, 8 Frequency Modulated channels, 6 High Frequencies for the 204th Anti-Aircraft Artillery Group and 7 Control Group Voice Frequencies. The Control Center was monitored for a three week period with good results.

Mobile Units were usually comprised of four or five men of high calibre, thoroughly familiar with all equipment and capable of carrying on all analysis duties as well as that of receiving and recording traffic. Close communication and liaison were carried on between the Mobile Unit and the Operations or Communications officer of the unit being monitored. When training flights were being monitored the hours of monitoring coincided with the hours that aircraft were participating in missions

and the unit ceased monitoring when the mission was ended to give operators a rest. No attempt was made at continuous 24-hour service.

The importance of the work done by this Section lay primarily in the emphasis it placed upon monitoring training outfits where tendencies to commit Security breaches and deviations from standard operating procedure could be nipped in the bud without any disastrous consequences.(27)

## Fourth Radio Security Section

In March 1943, one officer and 9 enlisted men arrived at Reykjavik, Iceland, and started making preparations for establishing the 4th Radio Security Section. Equipment was several weeks late in arriving. The men busied themselves with making their quarters livable and were ready to go aheaad with setting up the equipment immediately after it arrived.

In the beginning, the 4th Section monitored AACS, AAF and also foreign broadcasts. Missions were assigned by AAF Headquarters and by the Commanding General, Iceland Base Command. All local traffic was monitored. A number of British CW frequencies were monitored as well as low range AACS CW and AACS VHF Voice transmissions and tower traffic.

On the first of each month a report concerning the state of communications was prepared and sent to the Commanding General, Iceland Base Command. The report contained the following: information concerning AACS point-

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27. Extracted from Historical Data of the Third Radio Security Section covering the period 1 Jan. 43 to 31 Dec. 1945.

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to-point nets. Air/ground nets, fighter control nets and traffic control nets. All nets monitored were to be given a rating of Superior, Excellent, Average, Below Average, and Poor. Recommendations were to be made and suggestions for improving communications given.

By request of the Commanding Officer of station WYTU, Section 4 did some direction finding work since no other facilities of personnel capable of doing the work were available in the area. The SCR-551-T2 was used and when a bearing was requested, station WYTU telephoned the information to the Section Headquarters where the bearing was taken and telephoned back to the station from where it was given to the plane. Several planes, some with engine trouble, some low on gas, and some which had lost their course were guided safely in to a landing at Iceland landing fields.

During the summer, the mission of the 4th Radio Security Section turned more and more to the full-time monitoring of AACS transmissions. During this time the activities of the AACS in the North Atlantic area were decreasing, but were simultaneously expanding in the European Theater. It therefore became advisable to move the Section from Iceland to a point in Europe where it would be more centrally located for the monitoring of the AACS traffic in that Theater. After consultation with the 5th AACS Wing Headquarters it was decided to erect the monitor station at USSTAF Headquarters, Bushy Park, Teddington, Middlesex, England and attach the Section for rations and quarters to the 423 Signal Company.

Upon arrival at the new site of operations in England, it was the desire of the Commanding Officer of the 5th AACS Wing to immediately focus all attention on Voice air/ground channels. The channels were

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cluttered with superfluous transmissions, point-to-point traffic, VIP revelations, simultaneous transmissions and breaches of weather codes. Secondarily, the policing of the CW air/ground and point-to-point channels was to be accomplished.

Information pertinent to the operations, frequencies and call signs of the Wing and its Groups were supplied to the Section and a daily courier run from Bushy Park to London was established to expedite this phase of operations. This was simple in its accomplishment, there being but twenty minutes travel time between the Section and Wing Headquarters in London. These daily visits maintained excellent coordination and missions were usually verbally assigned after short conferences between Wing Communications Officers and the Section Commander.

Additional services performed for the 5th AACS Wing at their request included the listing, with all possible identification data, of all sources of interference found on frequencies used by the Wing. Two other projects involved the use of the Class C-10-H Secondary Frequency Standard, and instrument made available to the Section by the 5th Wing. These projects included the measuring of the frequencies to check the transmitters for accuracy in tuning to frequency and the measurement of a number of foreign weather broadcast stations.

In addition, two missions of a special nature were performed for Headquarters Army Air Forces. The missions were performed to gather information about the number of messages employing 4-letter and 5-letter code groups on air/ground frequencies.

Because of the growing policy to gradually remove troops from the

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United Kingkom, it was decided after a conference with the 5th Wing to relocate the 4th Section in Orly, France. The TC-9 shelters proved to be miraculous time-savers in the process of packing. The Section's equipment was packed into the shelters as one would pack his personal wardrobe. The length and tedious chore of building, measuring, weighing and cataloguing crates was completely eliminated. The TC-9's since they were already installed on trucks, were ready to be moved the moment they were packed. Because of this great saving in time it was possible to complete the movement in two weeks. Operations ceased in Bushy Park, Teddington, Middlesex, England, on the 10th of April and were resumed at Orly Field, Paris, France on the 25th.

The duties undertaken by the 4th Section at Orly Field were merely a continuation of the activities in which the Section engaged in England. The work was still mainly monitoring, intercepting and analyzing the traffic of AACS, EurDATC and AAF frequencies. From long and extensive experience in dealing with the problems of radio communications the Section concluded that most of the shortcomings of the communications system in the area had been pointed out, the dangers and consequences of security breaches had been unearthed and steps initiated to correct these deficiencies. The next greatest source of improvement lay in the radio operator. A publication was devised by the Section which embraced the more common operating deficiencies, explaining their consequences and how to combat them. It was well received by the officers of the 5th Wing and was approved for publication and subsequent dissemination among all units under the jurisdiction of the Command. In this way the

radio operator, himself, was given a heretofore unavailavle training aid.

This pamphlet was published under the title, "THE AIRCRAFT RADIO OPERATOR". During August there were requests for 270 copies from various units. Favorable comments were shortly forthcoming.

After V-J Day, the amount of traffic in the ETO, already considerably decreased after V-E Day, was even further reduced to such an extent that it was decided to close down operations in that area.(28)

Fifth Radio Security Section.

The 5th Radio Security Section disembarked at Oran, Algéria, 20 March 1943 and was subsequently attached to Headquarters Northwest African Air Forces. In spite of the repeated trips by Captain Blacksten, the Commanding Officer, to the Brooklyn Army base prior to overseas movement for the purpose of guarding and expediting the shipment of the Sections equipment, the Section embarked for overseas movement without the equipment and it was not until 21 May that the equipment finally arrived. During this time most equipment was frozen in the North African Area and the only equipment which the Section was able to procure was a few pieces borrowed from Royal Air Force units.

Four monitor positions equipped with Hallicrafter, SX-28 receivers were the first to be set up. Operations were limited to two six-hour

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28. Extracted from Historical Data of the Fourth Radio Security Section covering the period 13 Dec. 42 to Oct 1945.

shifts per monitor day due to a shortage of operators. During this period the Section concentrated on copy of airborne transmissions and the monitoring of point-to-point traffic.

The Section was subjected to approximately fifteen sporadic enemy air attacks of the night bombing variety while in the Algiers area. The rain of flak and rocket shells which had the range exactly, was a disturbing factor, the van offering but scant protection. Fortunately the unit suffered no casualties.

Analysis of monitor logs revealed flagrant disregard for authorized radio communications security measures and procedure practices. Airborne operators frequently revealed that the Syko (later Rekoh) code card in use for the day was not available to them and upon receipt of the encoded message they would request and receive an abbreviated form of the coded message in plain language. Among the discrepancies noted in radio communications in the North African Area were the compromise of codes, references to movement of VIP, number and types of aircraft in flight operations and a general disregard for authorized radio procedure.

The following is a quotation from the Section Commander on communications conditions in the area, "Monitor logs for the first operations definitely established as a fact that radio communications in North African Army Air Force networks were in a chaotic state. Practically every conceivable security violation exixted in volume".

Monitor and analysis methods incorporated were designed to permit comprehensive reporting of actual security violations, emphasizing the urgent need for immediate observance of security measures in force.

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With the cooperation of the communications personnel, the effecting of corrective and disciplinary action by higher headquarters, gratifying results were obtained. Although the use of incorrect procedure practices was still prevalent, individual violations of security sharply declined. The effective value of the Section as a security monitoring unit assured early movement of the organization to the forward area by the Signal Section, Northwest African Air Forces.

The Section continued to receive missions from the Signal Section, Northwest African Air Forces, and as was expected the 5th Section received orders to move to La Marsa, Tunisia, where it would be more advantageously situated to give monitor coverage to the frequencies in use on the fast-moving front which had developed there.

The La Marsa, Tunisia, operational site, jointly shared with British and later with an American Radio Intelligence organization, had been occupied by a German air warning and radio intercept unit. A dormitory, theater and classroom of a school previously maintained by a religious order, provided adequate operations and office space for the organizations there. The operations site was 770 feet above sea level overlooking the Mediterranean Sea. There was a complete absence of higher elevations within a wide radius of the site and the advantages of the location were many.

On 23 July 1943, a Royal Air Force monitoring unit, consisting of one sergeant and six airmen, were attached for duty. The addition of the British personnel permitted twenty-four hour coverage on all monitor positions. Proving very efficient, the Royal Air Force operators greatly

increased the unit's effectiveness.

Four intercept positions were utilized in monitoring of Northwest African Air Forces medium frequencies. One additional position equipped with a Hallicrafter, S-27 receiver was employed to record very high frequency voice transmissions. Soon after, six continuous wave and one very high frequency voice position were in operation on a twenty-four hour basis.

Section personnel had worked tirelessly under conditions which sometimes became very trying. The shortage of personnel, the nearness to the front and the subjection to enemy fire on numerous occasions all had its effect on the morale and condition of the men. It was very gratifying to receive a letter from Major G.M. Kinsey, Air Corps, Chief, Monitoring Section, Headquarters Army Air Forces, congratulating and commending the Section for its work, particularly in the radio-telephone monitor-intercept field.

With a feeling that the Section was contributing something worthwhile to the war effort new missions were undertaken with good spirits.

Special mission assignments were highlighted with the monitoring of Air Support Command nets throughout the Sicilian invasion. The initial bombing runs when leaflets were dropped over Rome, were recorded by the Section. On the following day, as the first wave of American bombers swept over Rome, the exact instant of "bombs away" was intercepted,

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29. AAF 350.09 (10.21) Memo, Subj: Operations of Detachment 9 Aug. 1943.

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recorded, and flashed to the War Room by special telephone lines. The information was released minutes later to the world by a special radio broadcast and served strategically to elevate the prestige of the Allies by the fact that the world got the news first from Allied sources before any German propaganda treatment, Goebbels style, had been administered.

By early summer 1944, the Section had set up operations at San Stefano, on the island of Orbetello, Italy. It was soon evident from logged transmissions that there was plenty to be done toward improvement of communications on the frequencies monitored which were under the jurisdiction of Commanding General, Mediterranean Theater of Operations, and allocated mostly to the XII Tactical Air Command. The channels were overcrowded and choked with excessive testing, superfluous repetition of operating signals, and operator chatter. Improper guarding of frequencies, delay in answering calls and failure to properly zero transmitters contributed to the confusion. Operators in this theater were particularly guilty of excessive sending speeds which were hard to copy because of improperly formed characters. The net result of a 30 word per minute transmission under these conditions was a clearance speed of about ten to fifteen words per minute. Transmissions were so full of IMI's and INT's that scarcely any continuity was perceptible in the logs.

The Section set to work monitoring CW point-to-point traffic, air-to-ground, and air-to-air traffic. The stations monitored ranged geographically from North Africa to Sardinia and Sicily and the Italian Mainland. R/T VHF monitoring covered patrols over the Tyhrrenian Sea



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and the Mediterranean Sea and covered land operations along the Italian coast.

Later in the year, the Section set up operations at Fiesole, Italy, on the Italian mainland and engaged in extensive monitoring activities of AAF and AACS nets in the area. Reports, charts, CIM'S and other helpful data were channeled through the headquarters of the commands monitored and were in turn sent on to lower echelons where the violating operators were informed of their errors.

The first quarterly period of 1945 revealed a sharp decrease in security and procedure violations over the final quarterly period of 1944. Only 12 CIM'S were issued as compared to 33 issued for the last quarter of 1944. However, there was still much to be done to correct the communications deficiencies of the many channels in use by the AAF and AACS. The Section continued to work with communications in the Italian and Mediterranean area until shortly after V-E Day. With the end of the war in Europe, the decline in traffic made it unnecessary to continue monitoring activities in the area.

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The Section was gratified to receive a special commendation from Major General, Benjamin W. Chidlaw, Commanding General of the 12th Air Force for their tireless devotion to duty and their extremly valuable help in perfecting and maintaining effective communications under his command.

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30. Headquarters 12th Air Force APO 650 14 May 1945 Letter 201.22/5 Subj: Commendation for Section 5

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Another commendation signed by Brigadier General, A.W. Marriner, Communications Officer of Army Air Forces, Mediterranean Theater of Operations, stated, in part, "The personnel of this unit who operated in isolated areas at high ground sites favorable to all types of radio reception displayed willingness and untiring devotion to duty in the achievement of their difficult task which merits appropriate recognition for a proficient duty splendidly performed."(31)(32)

## Sixth Radio Security Section

The 6th Radio Security Section was one of the first Sections to begin to perform its mission overseas. From the very beginning of its operations to the end it carried on at practically the same location: Trinidad, British West Indies.

For the first few months, operations were conducted in a vague and desultory fashion because of the great number of frequencies in use by the AAF and the absence of any preference as to which should be monitored. Soon, however, many of these frequencies were eliminated through forty-eight hour checks on the basis of the amount of traffic on each frequency.

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31. Headquarters AAF, Mediterranean Theater of Operations Letter 201.22 7 June 1945

32. Foregoing Section material extracted from Historical Data of the Fifth Radio Security Section covering the period Jan 1943 to July 1945

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An attempt was made to have the Section establish a small intercept station at Natal, Brazil in order to afford better coverage of AACS activities in that region. This fell through since it was felt that the Navy monitoring installation in Brazil could accomplish the same purpose.

After getting itself straightened out on just what frequencies of the Army Airways Communications System were worth monitoring and eliminating those which bore little traffic, the Section forged ahead with greater certainty. Concentrated effort was given these frequencies and later on additional monitoring time was devoted to frequencies of the ATC in the Caribbean area.

Because of the location of this Section and the defensive role of the Air Force and AAF Commands which it monitored the security violations which other Sections in more active combat theaters were spotting were practically absent in this Caribbean area. Instead, there was a multiplicity of violations of correct radio operating procedure whose end effect was to cause delays and misunderstandings in the clearance of radio traffic. Detailed reports indicating this were forwarded to the 8th AACS Wing Headquarters where it was realized that action would have to be taken to clear up the badly jumbled nets. A campaign followed these regular revelations through the medium of Section Weekly Reports on Security and Operational Procedure. In addition, special missions were requested of the 6th Section from time to time by AACS involving the determination of causes of interference on certain AACS channels. Investigation revealed that interference was due to nearby

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friendly stations on proximate frequencies, War Department net channels, CW appearing on Voice frequencies, and voice transmissions on CW frequencies.

Because of the vigilance of the 6th Section monitors, AACS operators using speed keys without warrant and messing up the air waves with jumbled traffic, were prohibited from using them until they had demonstrated proficiency.(33)

As a result of these regularly reported conditions of AACS nets and the anixiety of the 8th AACS Wing to improve transmitting channels, a campaign was conducted under the guidance of the Wing's Commanding Officer. In a matter of a few months, AACS channels were so cleared of operating procedure violations that a survey conducted by the 6th RSS resulted in the observation that "transmission security in the Caribbean area was good" and that "messages were being cleared quickly and more efficiently." Indeed, action was taken by AACS to remove the necessity for their own monitoring stations since it was felt that monitoring of the 6th Section was much more complete than their own.

## Seventh Radio Security Section

The 7th Radio Security Section operated in the Pacific area for the major part of its overseas operations. Specifically, it was attached to Kipapa Air Base near Wheeler Field, Hawaii, where it began initial

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33. Extracted from Historical Data of the Sixth Radio Security Section covering the period 16 Dec 1942 to December 1945

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operations by monitoring frequencies. Slight difficulties were experienced at first due to the lack of trained analysts, but these were overcome by the training of several operators in analysis duties. Frequencies were monitored to determine whether they were being used to the fullest extent. It was found that many frequencies of the 7th Fighter and Bomber Commands were not used, while others bore the brunt of messages.

As for clear-cut violations of security, there were very few committed, the danger to security in the transmissions lying chiefly in the overwhelmingly large number of procedure discrepancies. The prominent violations in this respect were the use of WP (weather priority) and WX (weather traffic), operator chatter and key play, useless traffic checks, unauthorized plain text transmissions, use of CW on R/T channels and individual operating habits. These were the subject of CIM'S week after week and derived from the obvious lack of net discipline.

At the beginning of 1945, the 7th Section moved to the island of Saipan. Here, because the 7th Air Force radio stations were spread over a large area, the majority of the monitoring was devoted to AACS. During the period which followed, in addition to the regular monitoring of 7th Air Force and 70th AACS Group frequencies, several special missions were performed. These dealt with the overloading of tower frequencies, overloading and inefficiency of VHF Frequencies, monitoring of Air Defense Command channels to determine what information, if any, was available to the enemy through Air Defense Command plotter reports, and a special mission for the U.S. Navy to determine the readability and



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effectiveness of a fake landing force being broadcast by the Navy.

Further operations were of a routine nature with continued emphasis on procedure violations until the Section moved to Okinawa in June. Here, operations were devoted chiefly to monitoring 7th Air Force transmissions and nets of the Far Eastern Air Forces. Special missions consisted of monitoring an Air-Sea Rescue frequency to determine the source of illicit use of this frequency, and of monitoring FEAF radio nets to determine possible negligence and inefficiency. Also, special attention was given to Radio-Telephone channels which were fertile in the amount of classified information they revealed. The end results of this survey were the restrictions in use of these R/T channels as the best way of stopping disclosures of official information.

Operations of this 7th Radio Security Section ceased in September and made ready to transfer its personnel to both other Sections and Stateside in accordance with Headquarters directives on redeployment and separation.(34)

Eighth Radio Security Section

The 8th Radio Security Section departed from Camp Stoneman, Pittsburgh, California, on 9th of April 1944 and arrived at Nadzab, New Guinea 10 May, 1944. The Section started operations at Nadzab, receiving its missions from the Communications Officer, Signal Office, Advanced Echelon, Fifth Air Force. The controlling agencies for the units monitored in the New Guinea Area were the Fifth Air Force, 308th, 309th, and 310th Bomb Wings

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34. Extracted from Historical Data of the Seventh Radio Security Section covering the period 9 Feb 1944 to November 1945.

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85th Fighter Wing, and the Fifth Fighter Command. Monitoring was carried on 24-hours per day and the usual reports and CIM'S were forwarded to the Communications Officers in charge.

Special missions performed during this early period consisted of monitoring the Navy operational circuit, "Bells", and the Far East Air Force-Fifth Air Force circuits. Frequencies were checked for off-frequency operations, security violations, interference, jamming, net procedure, operator chatter and excessive testing. Complete logs as well as a list of violations, remarks and recommendations were forwarded to Far East Air Force Headquarters.

Later missions of the 8th Section included the monitoring of frequencies in use by Headquarters Far East Air Force, Headquarters, Fifth Air Force, Hdq. Fifth Fighter Command and Headquarters, Thirteenth Air Force for transmission security breaches, interference, off-frequency operation and jamming. Tabulated reports were sent in daily to the above mentioned commands. Serious violations were telephoned immediately to the unit or units concerned.

As the war picture changed, the Section was ordered to proceed to Hollandia and await further orders. These orders were complied with and the Section waited at the Casual Pool for three months for further instructions. Finally a message came through ordering the Section to a location believed to be Palawan. Upon arrival at Palawan the Section commander found that the destination should have been Tanuan near an air strip on Leyte, Philippine Islands.

Upon arrival at Leyte, the Section was assigned the duties of monitoring

AAF nets, Air-Sea Rescue Channels and Air Support Nets to determine operating and communications efficiency.

A special mission was assigned the Section, that of monitoring Air-Sea Rescue and Distress channels to determine whether any unauthorized traffic was being transmitted on the channels and who was transmitting the traffic. These channels were to be void of any routine, administrative or operational traffic since they were reserved for Emergency and Distress signals. The Victor Air Support Net was found to be operating with a very low standard of efficiency. A report was made to the controlling agency listing the deficiencies and when a later spot check was made of the same net, improvement was evident.

Another special mission was given the Section to determine the cause of inefficient clearance of traffic of certain Air Force nets. It was found that foreign interference and jamming was the cause of much confusion and delay in clearance of traffic. However some suggestions were made which resulted in the clearance of traffic in a more reasonable length of time.

While in the Leyte area the 8th Section concentrated much time on the monitoring of Airdrome Control channels. Since the Philippines were to be the "hub" of operations in the near future, many units of all types and the troops and supplies necessary for operations were being rushed into the area. Landing strips, airfields and ports were being wrested from the enemy and put into operation and much of the necessary equipment was being transported by air. Airdrome Control

channels were revealing an alarmingly large amount of vital importance concerning combat cargo and troop movements.

After a three weeks period of monitoring of Airdrome voice channels, 87 clear text messages had been intercepted which contained clear text information concerning important movements of 21 major units on Leyte Island and nearby installations.

A veritable barrage of reports, CMI'S, letters and correspondence emanated from the Section in an effort to immediately curtail the dissemination of this vital information. In a short time there was a noticeable decline in disclosures of classified information.

As a result, control tower operators and ground stations would no longer give information of a classified nature in the clear. Moreover, when a pilot or airborne operator asked for such information improperly or revealed information in his message, the control tower operators reprimanded him at once and refused to give the information until proper procedure and security regulations were complied with. This system resulted in a much improved condition of Voice communications.

The good work of the Section was favorable commented upon by Colonel, G.B. Hoffman, Communications Officer in the Area and by Major General, H.M. McClelland, Air Communications Officer, Washington, D.C. in a commendation reaching the Section in July 1945. Following is a quotation (35)

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35. Headquarters 13th Air Force, Office of the Communications Officer APO 719 5 June 1945 201.22

36. Ibid--1st Indorsement 9 July 1945

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from the letter of commendation. "The personnel of the 8th Radio Security Section are commended upon the very creditable manner in which they are performing their duties, as evidenced by reports of inspecting officers."

The Section was further commended on the quality and extensiveness of their reports by Captain Brown, Analysis Officer of Detachment Headquarters, 136th Radio Security Detachment. Captain Brown stated that the weekly reports being received from Section 8 were "among the best and most complete reaching this Headquarters."(37)

## Ninth Radio Security Section

The 9th Radio Security Section arrived in Sunninghill Park, Ascot, Berkshire, England on 29 June 1944 and immediately started monitoring negotiations with the Headquarters of the 9th Air Force. The Section Commander held conferences with the Ninth Air Force Staff Signal Section and plans were made to monitor each command of the Air Force for ten-day to two-week periods, covering all phases of communications used by the commands, including point-to-point CW, air-to-ground and air-to-air radio telephone, and radio-link speech circuits.

The Section took no Signal equipment to the United Kingdom and when attempts were made to start operations it was found that most items were critical. Considerable assistance in the procurement of controlled items was offered by the Director of Communications and arrangements were

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37. Foregoing Section material extracted from Historical Data of the Eighth Radio Security Section covering the period 10 Feb. 1944 to August 1945.



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made for the temporary loan of equipment from other Signal Units pending the availability of supplies and equipment authorized by TO&E 1-952.

The 9th Section became operational on 23 July, and immediately placed seven men on detached service with IX Tactical Air Command to record traffic on Ninth Air Force ultra-high frequency cross-channel telephone facilites. In order to accomplish this purpose a recorder was set up in the Signal Block and three pairs of lines were extended to another room where the recorder unit operated. Sufficient recordings were made to indicate the degree of signal security. During the monitor period three wireless telegraphy and two very high frequency radio-telephone monitoring positions were utilized. Operators on the two radio-telephone positions recorded traffic on Dictaphone wax-type recorders. A log of the material recorded on each cylinder was annotated on slips which had been mimeographed for the purpose. These were inserted into each cylinder. The cylinders were then taken to the transcribing section where operators made the transcription in log form.

The wax records were then shaved and returned for subsequent use. This method of operation gave excellent results. If the transcriber missed a portion it was simple to back up the record and play the difficult part again. This system of recording and transcribing voice transmissions was used by this Section in later periods of operations.

While monitoring Ninth Air Force ultra-high frequency cross-channel telephone facilities, the following security violations were noted and cited in the Section weekly Security and Operations Report:

FAILURE OF TELEPHONE OPERATORS TO NOTIFY SUBSCRIBERS TO CALLS THAT THEY WERE USING RADIO CIRCUITS

WEATHER IN THE CLEAR

STRENGTH OF UNITS

NAMES AND MOVEMENT OF VERY IMPORTANT PERSONS IN CLEAR

DESIGNATION AND LOCATION OF UNITS

LONG TERM OPERATIONAL PLANS

NON-OFFICIAL MESSAGES

In an effort to improve the security aspect of communications in the area, the Section suggested that personnel using FM Link as a means of communication should outline the text of the proposed message, refrain from violations of security in the outline and omit informal talk during transmission.

While engaging in recording very high frequency cross-channel telephone conversations, the Section intercepted a discussion between two high-ranking officers which contained numerous flagrant security violations. The discussion concerned a tactical mission involving bomber and fighter squadrons which was to be executed in the near future.

Realizing the loss of life and equipment which might have resulted if the enemy had been monitoring that same channel, the NCOIC of the Section, acting on his own initiative, in the absence of the Commanding Officer, succeeded in getting the material to the Signal Communications Officer for appropriate action. As a result, the mission was not carried out at the specified time.

The Section continued fixed operation until Oct. 1944 when the entire Section began operations as a Mobile Unit. Operational necessity

required that the unit move a total of six times during the three month period that the Section operated as a Mobile Unit. The Section operated successively at Ozoir La Ferrier, France; Chantilly, France; Luxembourg; Vittel, France; Maastricht, Holland; Namur, Belgium and Rheims, France. The unit was completely self-sufficient at all times, having its own mess, transportation, supply, and administration units which were handled by Section personnel.

Nine missions, each for a period of ten days, were performed by the Section during the period of 1 January to 31 March, 1945. In executing these missions communication and cryptographic facilities at various Ninth Air Force Command Headquarters and subordinate units at the Headquarters First Tactical Air Force were inspected and security conditions reported. Most of the operations were pertinent to Ninth Air Force. However, while at Chantilly it was possible to monitor frequencies for Headquarters IX Engineer Command and Headquarters IX Air Force Service Command because of their proximity to Headquarters, Ninth Air Force.

During the monitoring of the IX Air Defense Command, four high frequency wireless telegraph monitoring positions were utilized. In addition, the Commanding Officer of the Section and one enlisted man made a tour of inspection of IX Air Defense Command units with a view to observing conditions of cryptographic and physical security of communication installations, station logs, cryptographic logs, message files, stereotype list, and other records pertaining to communications. Although cryptographic security investigations of this nature are not one of the normal functions of the Detachment or the Sections, they were conducted at the request of the Director of Communications, Ninth Air Force, who

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assigned a cryptographic technician to aid the Commanding Officer in the accomplishment of the task.

During this time wireless telegraphy monitor traffic volume was very large. Operators and analysts were busier at this time than during any previous period. This condition can be attributed partly to the fact that this intercept period occurred coincidently with the "Battle of the Bulge". The change in the tactical situation brought about by the German break-through in the Ardennes added a new importance to the IX Air Defense Command.

With the increase of activity within the command there was consequently a greater utilization of command communication facilities. At this time, immediately following the outbreak of the German offensive, when the city of Luxembourg was seriously threatened, six enlisted men from the Section were sent on temporary duty to Headquarters, Ninth Air Force (Advance), located in the city of Luxembourg, for the purpose of monitoring telephone facilities at that Headquarters. This was an added security precaution taken by the Director of Communications in an attempt to prevent German intelligence from obtaining any valuable information from Headquarters Ninth Air Force (Advance) FM Radio telephone communications. The six-man monitor team remained in Luxembourg, guarding communications security until the threat to the city had ended.

The 9th Section because of its flexible mobile characteristics continued to serve the 9th Air Force and its subordinate commands throughout the period of hostilities in the European Theater of Operations with a high degree of efficiency. The services rendered and the reports and achievements of the Section were among the best of the component Sections

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With the cessation of hostilities the 9th Air Force still had the tremendous task of disarming the German Air Force and rendering it impotent together with occupying German airfields and airdromes. This task necessarily entailed a tremendous amount of communications which still had to be guarded from belligerent enemy factions. The 9th Section continued to monitor FM Radio Link Channels in the ETO for the purpose of maintaining a high degree of security throughout.

As the nature of the conflict took on new aspects subsequent to V-E Day, it was no longer necessary for the 9th Section to be the highly mobile unit it had been during the period immediately preceding and after the "Battle of the Bulge". The Section set up permanent headquarters at Bad Kissingen, Germany where they continued to monitor communications channels in the area. Occasional groups of men were detached from Section Headquarters at Bad Kissingen, and sent out to cover communications problems in adjacent areas. The Section continued operations in the area until the end of 1945 when it was inactivated.

## Tenth and Twenty-First Radio Security Sections

In January 1945, the 136th Radio Security Detachment was reorganized and authorized two new Sections which brought the total up to 21 component Sections. This expansion was due to a request from the 20th Air Force asking for two units to do highly specialized work in radio countermeasures and traffic analysis. The need was urgent and in order to fill it

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promptly, a decision was made to take two domestic Radio Security Sections which were already partially trained and adapt them to the task. Section 19 was reorganized into Section 21 and Section 10 was chosen as the other to serve the 20th Air Force. Key personnel of Section 10 and 21 were sent to a special school at Arlington Hall, (38) Virginia, and upon completion of the extra training were soon dispatched (39) for overseas destination for duty with the 20th Air Force. By the fall of 45 the two Sections had been absorbed by the 20th Air Force and were no longer a part of the 136th Radio Security Detachment. Since the two Sections were no longer under the jurisdiction of the 136th, and no further correspondence or communication was made with them, no account of the operations of these Sections is included.

## Eleventh Radio Security Section

The 11th Radio Security Section began operations on the island of Adak after some difficulty was experienced in building a site for operations and habitation. Initial operations covered the monitoring of the 2nd AACS Wing 59th & 60th AACS Groups, and tactical transmissions

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38. Special Order 42 Par 2 Hqrs 136th RSD 10 April 1945.

39. (a) Movement orders Shipment 1684 WD 21 April 1945
(b) Movement orders Shipment 1684 WD 28 April 1945
(c) Hqrs AAF, Letter Subj: Assgmt of officer 6 April 1945
(d) S.O. 41 Par 2 Hqrs 136th RSD 7 April 1945

of units of the Eleventh Air Force, notably the 28th Bombardment Group. Due to the mountainous terrain in the Adak area, reception of VHF frequencies was difficult with further complications arising from poor reception caused by atmospheric disturbances over a band of frequencies from about 1500 to 5000 kilocycles.

Missions were assigned by the Signal Officer of the Eleventh Air Force. Results of monitoring during these initial stages included off-frequency operation as much as 20 kilocycles causing interference to adjacent channels, while further interference was encountered from Army, Navy and commercial stations who jumbled each other's frequencies. AACS operators were most inclined to resort to the use of "ham" and old army procedure, as well as to indulge in key play and operator chatter and to transmit too fast with maladjusted speed keys. It was also found that Aircraft Warning System stations were having difficulty establishing contact and were found to be off proper frequency. A common breach of security was reference to IFF (Identification Friend or Foe). It was characteristic of Eleventh Air Force operators that they sent at speeds beyond their capabilities causing requests for repetitions and blurred sending.

A special mission at the end of the year 44 was the monitoring of a B-24 carrying high-ranking Army and Navy officers from the Aleutian Islands to Hawaii non-stop to attend a conference at Pearl Harbor. Purpose of the monitoring was to keep the Signal Officer and the Commanding General of the 11th Air Force informed of its progress.

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At the beginning of 1945, emphasis in monitoring was shifted from AACS channels to nets of the 11th Air Force, to allow for more complete coverage. The Section was requested by Headquarters 11th Air Force to render whatever assistance it could in tracking down Japanese balloons floating about in the area. These balloons carried transmitters which emitted a constant but broken signal. These signals were monitored by operators of the 11th Section using two Super-Pro receivers. This type of monitoring temporarily took precedence over other types of work by request of the Commanding General, Alaskan Department. Fourteen balloon signals were picked up during a 12 hour period.

In addition to regular routine monitoring, the Section was asked to monitor all Air Transport Command transmissions in the Aleutians 24 hours daily on a spot-check basis.

Security conditions were relatively good in this area with the exception of many veteran operators whose disregard for newer and consequently slower operators in nets caused confusion and delay in the transmission of messages. In May, an advance monitoring team was dispatched to Shemya to more effectively monitor fighters and bombers based in the Western Aleutians and to render whatever other assistance it could as requested by the Signal Officer, Advanced Command Post, 11th Air Force at Shemya.

In spite of repeated scoring of violations by AACS operators in Weekly Reports especially that of operator chatter these violations continued unabated. This was attributed to the influx of new operators replacing older ones being returned to the states.



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After V-J Day ATC transmission monitoring was discontinued. This was but the forerunner of further discontinuations of monitoring to almost the vanishing point as controlling agencies considerably reduced their radio stations and traffic. The Section reverted to a simple daytime monitoring schedule. In November, practically the entire Section was returned to the States for Separation.(40)

Twelfth Radio Security Section.

The 12th Radio Security Section was activated in May of 1944. For several months thereafter it concentrated on forming and training personnel for overseas operation in the work it was scheduled to perform. Arrangements were made to attach a group of EM assigned to and working with the XX Bomber Command to this 12th Section which was soon to depart for India. This group of men submitted reports on procedure deviations to Command and Detachment Headquarters even before it was joined by the Commanding Officer and EM of the 12th Section.

It wasn't until the beginning of 1945 that Section 12 began to function as an entity. Immediately preceding this, the overseas contingent working with the XXth Bomber Command monitored tactical flights of B-29 aircraft based in India. They intercepted and relayed to Aircraft Control all messages transmitted by planes during missions. Many times

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40. Extracted from Historical Data of the Eleventh Radio Security Section covering the period 11 April 1944 to November 1945.

messages were received by monitors of this Section which were not heard by communications personnel of the Bomb Groups.

When the rest of the Section including the Commanding Officer arrived overseas in January, the entire Section was ready to operate as a unit. Six men were dispatched to China to monitor XXth Bomber Command channels there, thus supplying coverage to both the forward and rear echelons of the XXth Bomber Command.

In addition to monitoring XXth Bomber Command frequencies, attention was also directed to frequencies of the 4th AACS Wing, including control tower, and point-to-point. Special emphasis was placed upon "strike" messages which were relayed to Aircraft Control. It was found that in many cases the Section was able to receive messages that did not get through to ground stations, in spite of the fact that these stations handled the traffic during the missions. Also, studies were made of interference conditions, of frequency drift of the planes' and ground stations' transmitters, and of the number, type and originator of all messages transmitted during the raids.

Since the presence of adverse atmospherics and man-made disturbances constituted a major problem to communications personnel in the India-Burma Theater, interference conditions were investigated to discover the call signs of interfering stations and to survey supposedly idle frequencies in an effort to render them of some use. Charts on interference conditions were prepared and sent to the RCM Officer of the XXth Bomber Command, the Allied Air Command, and the Air Command South East Asia to Dr. R. A. Fereday, Head of the Noise Investigation

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Bureau, who found this information useful in conducting his study of weather and Jap interference. The XXth Bomber Command made use of these reports in several specific instances when interfering stations were identified as being associate stations of the XXth Bomber Command.

Communications Improvement Memorandums were sent out from XXth Bomber Command to more ably impress upon communications personnel the importance of security measures. In the Weekly Report (SORDS) procedure discrepancies were broken down to indicate the efficiency of every group and net. The purpose here was to encourage competition among Bombardment Groups to cut down on the number of discrepancies. That this plan proved effective was later brought out in a survey which revealed that the average number of violations within stations of the XXth Bomber Command had decreased by about 67 per cent in three months. In addition, a plan was worked out with the Communications Officer of the XXth Bomber Command whereby personnel of the Section would deliver lectures on radio communications security and operational procedure to radio operators in the various Bomb Groups. Recordings were made of actual transmissions and were played back to radio operators during these lectures. The ease of intercepting radio transmissions was graphically protrayed to them, and they were given an opportunity to observe their aptitude as operators. This series of lectures included at least one visit to each Bomb Group.

As a result of the excellent spirit of cooperation between the Communications Officer of the XXth Bomber Command and the 12th Radio Security Section communications conditions within the nets of the XXth

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Bomber Command were such that security violations remained at a minimum and other violations of radio operating procedure were comparatively rare. The work of the 12th Section, while it was of a few month's duration, was of such efficacy as to call forth the commendation of (41) the Deputy Commander of the Twentieth Air Force who praised the accomplishments of the Section in having increased the efficiency of XXth Bomber Command channels.

During the month of April 1945 there was an almost complete cessation of radio traffic in the XXth Bomber Command due to the pending move of the Command. The Section's monitoring was considerably reduced and it was asked to deliver a series of lectures on R/T procedure to flying personnel of several Bomb Groups. Steps were then taken to pack Section equipment for the contemplated move on June 1. Conferences between the Section Commander and Radio Officers of the XXth Bomber Command revealed that it was intended for the 12th Section to carry on its operations in the same manner at the new location, the Island of Okinawa. Several weeks elapsed until August when the Section moved to Okinawa. There, (42) no operations were carried on since the Japanese armies capitulated.

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41. 20th Air Force Letter, Office of the Deputy Commander (1B&C) 29 April 1945 signed: Brig. General Joseph Smith, Acting Deputy Commander.

42. Material extracted from Historical Data of the Twelfth Radio Security Section covering the period 25 May 44 to July 1945.

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## Thirteenth Radio Security Section.

The 13th Radio Security Section was activated at Ft. Meade, Maryland, on 20 August, 1944. After a brief period of training and indoctrination during which the men became familiar with their equipment, the Section operated for a period of one month.

Shortly after the move to Richmond, the 13th Section was joined by the 16th Radio Security Section and the two Sections worked together as a team while monitoring activities were carried on at Richmond.

The two Sections were attached to the First Air Force and monitored frequencies under its command. Seven positions were in continuous operation, monitoring frequencies of the First Air Force and AACS. Recordings of transmissions which contained serious violations were made and used for instructional material during weekly lectures to pilots given by the Section Commander and Section personnel. They pointed out the errors encountered and suggested ways of correcting them. The Sections checked the Richmond Army Air Base Control Tower for a 24-hour period and reported all violations to the Base Communications Officer.

During the stay at Richmond the men dismantled the equipment which was installed in the barracks, and set it up for field operations. This served as good training for the men and helped to better acquaint them with their equipment. Operations were suspended on the 23 of September and the men returned to Fort Meade, Maryland where they underwent a period of rigid overseas training preparatory to shipment.

On 2 November, 1944 the Section departed via rail for Camp Stoneman,

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California. The Section put ashore at Biak on 20 December to await transportation to the Philippine Islands. On the 5th of January 1945 it landed near Tacloban, Leyte, P.I. and awaited transportation to Mindoro where it was to be attached to the 5th Air Force. However, the orders were cancelled and five C-46 cargo carrying aircraft finally transported the men and equipment to Clark Field, on the Island of Luzon, P.I. where the Section at long last began operations on the 21st of March, 1945.

The 13th Section monitored point-to-point frequencies which were checked for interference. These frequencies were under the command of the 5th Air Force.

The Section Commander held daily conferences with the NCOIC, Trick Chiefs, Analysts and Chief Operator. These conferences served as a clearing house for operations problems and as an exchange center for ideas concerning better ways to accomplish missions. Telephone and teletype communications with Fifth Air Force Headquarters were maintained at all times.

Because of the fluid condition of the war in the Pacific at this time, much time was lost in moving from one operations site to another since transportation facilities were few.

After an extended period of inactivity the Section set up operations near Motabu Air Field on Okinawa where it continued to monitor frequencies under the jurisdiction of the 5th Air Force.

Among the most interesting special missions was that of monitoring the interchange of communications between the Japanese Government in Tokyo

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Japan but with the complete defeat of the Japanese it was considered unnecessary to carry on further monitoring activities and the Section ceased operations.(43)

## Fourteenth Radio Security Section.

The 14th Radio Security Section was activated on 4 Sept, 1944 and after the usual period of training, organizing and orientating assigned personnel, the Section moved by train to Camp Anza, Arlington, California and thence by boat to Bombay, India. After a train ride across India to the city of Ondal the Section was met with trucks by personnel of the 1st Radio Security Section and transported to Gushkara, India where the Section operated throughout the war.

In the beginning it was planned that the 14th Section would be monitoring channels in use by the 10th Air Force. However, the 10th Air Force did not see fit to avail itself of the services that could be rendered by the Section. To keep the men busy and maintain their degree of operating efficiency, the Commanding Officer made arrangements to monitor the 10th Air Force on a simulated mission. The frequencies were monitored but reports and CIM's were not forwarded to the 10th Air Force.

A change in mission came with the request of the 4th AACS Wing to monitor its frequencies and report on the state of its communications. During a 30 day period a total of forty different circuits were monitored,

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43. Extracted from the Historical Data of the 13th Radio Security Section covering the period 20 Aug. 44 to August 45.

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with 46,000 violations on CW and 18,568 violations on Voice recorded. Circuits guilty of these discrepancies were informed of such by means of CIM's and weekly reports. This resulted in a decrease of violations and an increase in over-all circuit efficiency. The following is a quotation from a letter written by the Commanding Officer of the 63rd AACS Group operating in the India-Burma Theater:

> "...These reports are particularly valuable as a guide to the 63rd AACS Group monitor station and are being put to use in accordance with the following procedure:
>
> a. Member stations of nets cited for discrepancies in subject report are directed to report on corrective action taken.
>
> b. The Group monitor station is instructed to pay special attention to the type of discrepancies noted to insure continuance of corrective measures by stations concerned.
>
> c. This system which provides a follow-up to the Weekly Radio Transmission Security and Procedure Reports is already proving successful in curtailing procedure discrepancies..."

The Section continued to cover 4th AACS Wing channels as a unit for several weeks, after which it merged with the 1st Radio Security Section and the two Sections operated as a unit covering mostly AACS channels from the operations site of Section 1 which was located at Gushkara, India.

Shortly after the capitulation of the Japanese, traffic began to decline and during one month, 42 AACS circuits ceased operations. Procedure errors per month dropped from 20,000 to about 10,000. Many circuits operated only two or three hours per day. The Section activities

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were completely merged with those of Section 1 and operations were thenceforth basically the same as described in the Section 1 history. (44)

## Fifteenth Radio Security Section

The 15th Radio Security Section set up operations 4 miles southeast of Cerignola, Italy, on the 8th of November, 1944. All missions were assigned by the 15th Air Force traffic control officer by direct telephone. Most major frequencies were monitored for a period of one week, corresponding, whenever possible, to the period covered by the weekly Security and Operational Procedure report. Each frequency in use by the 15th Air Force was monitored to see which frequencies were being used most and which least. On the 26th of January, 8 men were detached from the Section for the purpose of performing a mobile mission monitoring radiotelephone channels of the 47th Bomb Wing of the 15th Air Force. All facilities of the airfields of the 47th Bomb Wing were monitored twice. After the first monitoring, a report was sent to the Communications Officer and CIM's were sent to the violating agencies. When the second monitoring was completed, the reports showed a comparison of the operating efficiency relative to each period of monitoring.

The Section continued to monitor frequencies of the 15th Air Force throughout the war and engaged in extensive use of Mobile units for monitoring communications frequencies of the various Bomber and Fighter commands throughout the Italian mainland.

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44. Extracted from the Historical Data of the 14th Radio Security Section covering the period 7 Sept 44 to Nov 45.

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With the termination of hostilities on V-E Day the traffic of fighter and bomber groups declined. However, the point-to-point and air-ground traffic of AACS communications of the 2nd AACS Wing still flourished in the area and preparations were soon underway to monitor that type of traffic.

A conference was attended by the Section commander of Section 15 and the Section commander of Section 5 which was also operating in the Italian Theater. The conference served as a clearing house for ideas, methods, procedures and other data exchanged by the two Section commanders and the Communications Officers of the Theater.

The Section moved to Oran, Algeria, North Africa in June 1945 and set up operations for the purpose of monitoring frequencies under the jurisdiction of Commanding General, North African Division, Air Transport Command, and the 2nd Army Airways Communications System Wing.

During the first three weeks of monitor operations at this location all frequencies were monitored to determine which were the busiest and at what time of day they conducted most traffic. This was done so that special missions could be assigned in the future for a more comprehensive study of circuit conditions.

The Section effected good coverage of the frequencies under the command of the North African Division, ATC, and the 2nd AACS Wing except the 57th Group. The 57th Group stations were so far away from the receiving site of the Section that a mobile Unit was dispatched to effect the desired coverage. The Mobile unit succeeded in giving the frequencies

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good coverage with excellent reception. The usual reports and CIM'S were rendered to the Communications Officer in charge of the Group and upon completion of the monitoring of these frequencies, the Mobile Unit returned to the Section operations site at Oran.

The Section continued to monitor frequencies of the NAFD-ATC and the 2nd AACS Wing and conducted numerous Mobile missions throughout the area until the absence of traffic made it necessary to move the Section to Germany for operations in that area with the United States Armed Forces in Europe.(45)

## Sixteenth Radio Security Section

The 16th Radio Security Section spent several months during the latter half of 1944 training in the States in preparation for overseas missions. During this period, it monitored transmissions of the 1st Air Force at Richmond AAB including tower frequencies, air-ground liaison nets and homing frequencies. Violations in operating procedure were duly noted and violating agencies informed via the Base Communications Officer. Chief violations here consisted of operator chatter, and revealing types, number and times of departure and arrival of aircraft.

This Section did not arrive at its overseas destination, the Philippine Islands until January 1945 where operations were carried on for two months on the island of Leyte. Mission assignments came from

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45. Extracted from the Historical Data of the 15th Radio Security Section covering the period 11 Aug. 44 to Dec. 1945.

the Communications Officer of the Far Eastern Air Forces and consisted of monitoring three main FEAF point-to-point frequencies. Special assignments consisted of monitoring strike frequencies of the 5th and 13th Air Forces, three Air Operational Intelligence Circuits and one Air Command Liaison frequency on a 24-hour basis; also, to monitor 6 different tower frequencies during the daylight hours.

Discrepancies recorded during these missions consisted of unofficial communication, excessive tuning and testing, use of profane language, unnecessary transmission in plain text, and the disclosure of name and location of target. In addition, a series of special monitor periods were devoted to an analysis of handling traffic on the Air Operational Intelligence Circuit, a report on all pertinent information of security value which could be obtained by monitoring one special frequency and two VHF command channels. During this period an informal commendation was awarded the 16th Radio Security Section for services rendered FEAF.

For the next few months this Section continued to monitor FEAF frequencies noting discrepancies and citing the most flagrant ones in special Communications Improvement Memorandums. Among these were: identification of a crypto message with its paraphrase, service message referring to cryptographed message sent in the clear, indicators of crypto systems that couldn't be broken at that station revealed, unauthorized plain language and operator chatter. In addition, and for the first time, Headquarters requested the monitoring of certain radio-teletype frequencies. This necessitated the improvisation of certain

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changes in existing land-line teletype monitoring equipment to enable it to be used to monitor radio-teletype. These changes were devised by personnel of the 16th Section and elicited a commendation from General George C. Kenney, Commanding General of the FEAF.(46)

A few days after the surrender of Japan, this Section received word to be ready to move to Tokyo and were the first AAF unit in that city.

Post V-J operations consisted of monitoring FEAF radio channels, RTT, VHF, air-ground frequencies and English broadcast channels for news of the final capitulation of Japan to be immediately relayed to the Communications Officer.

Thereafter, operations dwindled until the Section received word to make ready to return to the States.(47)

## Eighteenth Radio Security Section

The 18th Section was activated on 12 April 1944 and soon after set up operations at the Pueblo Army Air Base, Pueblo, Colorado. The mission to be performed was that of monitoring air-to-ground and air-to-air

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46. Letter, Headquarters, Far Eastern Air Forces APO 925 201.22/16 15 Sept 45 Subj: Commendation.

47. Foregoing material extracted from Historical Data of the 16th Radio Security Section covering the period 21 Aug 44 to Sept 45

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frequencies employed by training Squadrons of the Second Air Force. From the permanent operations site at Pueblo, Colo. the Section sent out mobile units to cover the training units operating from airfields throughout Colorado, Kansas, Nebraska, Oklahoma, and South Dakota. The mobile units traveled from base to base throughout the Midwest stopping at each field long enough to cover all frequencies in use by the training crews and to report to the communications officer the degree of operational procedure efficiency and the degree of security consciousness exhibited by operators in training.

A second mission entailed the sending of another Mobile unit to cover training frequencies in use by flights emanating from fields in Utah, Idaho, Wyoming and Montana. The Section rendered a service which was appreciated by the communications officers who were striving to "nip in the bud" any dangerous habits being formed by aircraft operators and ground personnel while they were in training. In this way the threat to communications security in overseas theaters destined to receive these trained crews was much less than would have resulted had no such instructional guidance been given while they were in training.

While on duty in Colorado, the Section received orders to prepare for overseas movement. The necessary plans were completed and the Section disembarked at Guam, 18 February 1945. The 17th Radio Security Section was already located there and the Commanding Officers of Sections 17 and 18 decided that the mission of both sections could be best accomplished by merging the two and operating as a unit since both were attached to

the XXI Bomber Command.

Mission assignments for the 17th and 18th Sections originated with the Air Communications Office of the XXI Bomber Command, a part of the 20th Air Force. All frequencies used by the XXI Bomber Command were monitored for security purposes and in addition all messages transmitted by bombers enroute to and from the target were intercepted, decoded and sent via teletype from the operations site to the Controller located in the Signal Center of the XXI Bomber Command. Over that important communication channel traveled vital information regarding the success of the bombing missions, physical condition of returning aircraft, enemy opposition encountered, and the actual disposition of aircraft unable to proceed to their home base.

Normal 24-hour monitoring was carried on in addition to the special mission. Fourteen intercept positions were set up in a Quonset hut. A shortage of operators made it necessary for some operators to guard two frequencies simultaneously by listening through headsets plugged into one receiver and a loudspeaker plugged into another. Occasionally, during "strike" periods, Lieutenant Stockton and Captain Zellefrow, Commanding Officers of the Sections, alleviated the operator shortage by guarding frequencies themselves. Operating personnel were assigned to duty on a six-hour period of duty with twelve hours off basis with every fourth day off completely.

Special missions assigned the Sections in the early period of monitoring activities on Guam included the monitoring of distress frequencies to determine the degree of communications efficiency on these vitally important emergency frequencies. Another mission consisted

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of monitoring the hourly time signals broadcast by the various Wings of the Bombardment Command to determine their accuracy. An interference study for Headquarters Army Air Forces Pacific Ocean Areas was made on frequencies used for communication between Guam and Iwo Jima. Various frequencies were monitored to determine their availability as "strike" frequencies for use by the Bombardment Wings. Another special mission entailed the monitoring of each station under two of the Bombardment Wings and listing each station with its violations. Special reports were made on the accumulated data and forwarded to the Bombardment Wings.

The 17th and 18th Sections considered the assignment with the 20th Bomber Command of prime importance and devoted most of their time to frequencies employed by that command. However, when it was possible to devote the use of a receiver or two to monitoring AACS transmissions, transmissions of the 70th AACS Group were monitored.

Because of the small amount of time allotted to the monitoring of AACS channels little improvement was noticed but the communications of the 20th Air Force were beginning to show decided improvement. The Communications Officers of the 20th Air Force had constantly and consistently accepted and initiated recommendations and suggestions forwarded by the Sections. Week after week, the number of security and procedure violations steadily declined while the number of messages intercepted increased. This condition gave both the Sections and the Bomber Command the feeling that much was being accomplished and served

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to boost morale and good will between the two Commands. The Sections continued to serve the 20th Bomber Command and the 70th AACS Group until the end of hostilities and communications declined, making further monitoring unnecessary.(48)

## Nineteenth Radio Security Section.

The 19th Radio Security Section was activated in May 1944. After a brief period of monitoring at the Richmond Army Air Base, Richmond, Virginia, the Section moved to MacDill Field, Florida, where monitoring activities were carried on for the 3rd Air Force.

The mission was to monitor all radio communications within the Third Air Force, which included the Third Bomber Command, Third Fighter Command, and Aircraft Warning Unit Training Center. This created quite a problem as the Third Bomber Command extended from Louisiana to southern Florida.

It was evident that, in order to properly cover an area of this size with the equipment available, it would be necessary to resort to mobile missions. However, it was decided to cover all channels possible from the location at MacDill Field before engaging in any mobile work. The transmissions from six of the major commands under the jurisdiction of the Third Air Force were monitored from MacDill Field and the Mobile Units later visited 11 Air Fields in the state of Florida and covered their communications.

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48. Extracted from Historical Data of the 17th and 18th Radio Security Sections covering the period 12 Apr. 44 to Dec. 45.

(49)

The Section and its Commanding Officer were commended by Brigadier General, T.W. Blackburn, Commanding General of the Third Fighter Command, for their work in monitoring channels of that command. The following quotation is taken from the original commendation:

> "...As a result of the manner in which the frequencies were monitored and monitoring reports and communications improvement memoranda submitted, a marked improvement in both W/T and R/T procedure has been noted throughout this command..."

While in the middle of operations with the Third Air Force the Section received orders to make preparations for overseas movement. Captain Blacksten, the Commanding Officer, with a nucleus of key men departed for overseas destination where they joined the remaining men who were to make up the 19th Section. The major portion of the men who had comprised the 19th Section at MacDill Field proceeded to Detachment Headquarters, at Reading, Pennsylvania, where they formed the 21st RSS, later detached from the 136th and absorbed by the 21st Bomber Command as its own unit.

After considerable reorganization of the Section and orientating all the new men as to their duties the Section started monitoring for the 8th Air Force. Frequencies of the 1st, 2nd, and 3rd Air Divisions were covered. During the early period of operation the Section covered frequencies for 12 Combat Wings, 2 Fighter Wings, 12 Fighter Groups, 6 Bomb Groups and the Operational and Command channels of the three Air Divisions. Eighth Air Force point-to-point traffic was monitored but with the decline in this

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49. Letter, Headquarters III Fighter Command Office of the Commanding General 3FC 201.22 10 Feb. 45 Drew Field, Tampa, Florida.

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type of traffic the Section was given the mission of monitoring HF D/F frequencies of the Three Air Divisions to see how much information regarding deployment was given out over the air. Each Air Division was monitored for one week, the information recorded was evaluated and reports made thereon.

The Section Commanding Officer and the two Section analysts visited the operational groups of the First Air Division. The trip lasted for three days during which violations and discrepancies in communications were pointed out and elaborated upon. Conferences were held with both officers and enlisted personnel. Complete cooperation was received at all times and the time was very well spent. Many ideas and suggestions were exchanged and it was felt that an increase in communications efficiency would result from the conferences.

While working with the 8th Air Force and the 8th Fighter Command the 19th Section did much to eliminate operator chatter, operators playing with keys, transmitting on unauthorized channels, excessive tuning and testing, poor net courtesy and the use of unauthorized signals. It was noted that because the 8th Air Force worked in close cooperation with the Royal Air Force, a British influence reflected itself in the communications of many 8th Air Force channels. This sometimes resulted in confusion and caused delay in clearing traffic speedily. The Section pointed out this hybrid communications system and succeeded somewhat in bringing the operators back to standard operating procedure.

The Section worked tirelessly in helping the 8th Air Force and the

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8th Fighter Command to improve communications until Victory in Europe made it unnecessary to continue operations.(50)

## Twentieth Radio Security Section

The 20th Radio Security Section was one of two Sections added to the Table of Organization at the beginning of 1945. It was originally intended to be formed and trained for special use by the Twentieth Air Force, together with Section 21. However, since time was an important factor, another Section, already formed and needing only the special training required, was designated for this purpose-Section 10.

Instead, Section 20 was requested for security monitoring by the Far Eastern Air Forces and it underwent training at Detachment Headquarters. This training consisted of code practice for radio operators, the training of analysts, and field work in monitoring various stations of the 52nd AACS Group situated throughout the Northeastern part of the U.S.

During June this Section made ready to ship overseas and at the end of July was on the high seas bound for the Philippine Islands where it arrived at the end of August 1945. However, a few days before had seen the surrender of the Japanese armies in the field, so the arrival of the Section was an anti-climax. The Section never actually engaged in monitoring, was relieved of assignment to the Far Eastern Air Forces and attached to the 13th Air Force. For the remainder of the year, the Section furnished personnel to the 13th Air Force Signal Center where

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50. Extracted from Historical Data, 19th Radio Security Section covering the period 17 July 44 to Sept. 45.

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they performed in the capacity of radio operators, switchboard operators, cryptographers, instrument and radio repairmen and message center clerks. (51)

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51. Extracted from Historical Data 20th Radio Security Section covering the period 27 Jan. 45 to Sept. 45.

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# CHAPTER FIVE

# CONCLUSION

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# Chapter V

## CONCLUSION

The following pages contain a discussion in the form of criticisms and recommendations representing a distillation of suggestions made by a group of Commanding Officers of overseas Radio Security Sections. They are included as a supplement to whatever other improvements and innovations may suggest themselves to those who read these pages concerned with future expansion and amplification of radio security monitoring or allied organizations.

### Administration

The greatest difficulty experienced by Radio Security Sections with administrative channels was the lack of familiarization on the part of AAF commands with the organization and purpose of a Radio Security Section. This resulted in misunderstandings and unnecessary delays in the clearance of administrative reports and correspondence. In addition, it later became necessary to provide reports for both Detachment Headquarters and the local Theater or Command to which the Section was attached. The effect of this was a probable duplication in statistical reporting and personnel accounting.

Additional questions of administrative jurisdiction and responsibility arose when some Radio Security Sections changed location from time to time and consequently changed theater administrative headquarters. This required a series of renegotiations and explanations in order to clarify administrative channels.

It is felt that most of these difficulties would not have arisen

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had there been an awareness and acquaintance with the work of a Radio Security Section previous to its arrival in the theater. Further assistance in this regard could have been provided by an appropriate AR or AAF Reg. setting forth the administrative channels to be followed by overseas units with Zone of Interior parent organizations.

The practice of having Detachment Headquarters send all necessary WD and AAF publications to Radio Security Sections was an excellent one and is preferred to local distribution which was often unreliable, out-dated and imcomplete. Also highly desirable was the authorization of direct radio contact between Radio Security Sections and Detachment Headquarters, thereby facilitating and expediting the exchange of important messages.

On the subject of administrative personnel, a consensus of Section Commanders revealed the following: since Radio Security Sections function largely in the manner of a smaller-scale Air Force Squadron with similar administrative duties and problems, it is considered necessary that a high-ranking noncom be charged with the duties of a First Sergeant. In this way, a central responsibility would exist for the proper coordination of administrative duties and the multitude of other details which arise daily. The satisfaction of this requirement would result in a much more efficient and smooth running Section administration and would enable each Radio Security Section to handle its own personnel records.

The greatest difficulty experienced by most Sections whose operations required periodic movement of supplies, equipment and personnel was an

inadequacy of vehicles to accomplish the move. Enough vehicles were usually on hand to transport the radio equipment leaving no means for moving either personnel or remaining organizational equipment. This left the unit constantly dependent upon some other organization whenever a move was necessary. It is recommended that since this problem was peculiar only to those Sections which moved frequently, the Section Commanders of these Sections should have the authority to requisition sufficient vehicles whenever a move is necessary.

Few messing problems were encountered. However, it was agreed by most Section Commanders that existing kitchen equipment could well stand supplementation by additional heater units of Field Range M-1937. Criticism was also directed against the presence of only one cook and a cook's helper. Sections constantly on the move could not avail themselves of consolidated mess facilities, thus a cook and cook's helper were not enough. In many cases, radio operators were called upon to perform kitchen details.

Many supply difficulties were experienced by Radio Security Sections which are not discussed here since they were common to most overseas units. Among these were untimely arrival of equipment, improper dispatching of equipment, equipment "grabs" at port of debarkation depots and general difficulty of obtaining equipment replacement parts.

## Operations

Opinion of Section Commanders on an over-all inadequacy in number of personnel to satisfactorily perform the mission of Security and

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Operational Procedure monitoring was unanimous. Slight differences were expressed on how large a monitor unit should be, but all were agreed that each functioning category within the Section could stand enlarging, especially the operating section. In most cases it was found that frequencies were given much less coverage than they should have been in order to determine the fullest extent of their traffic, security and operational procedure violations. In addition, this insufficiency of monitoring personnel quite often necessitated working monitor operators for extra long shifts with a consequent reduction in their efficiency. Additional operators would have enabled not only more complete coverage of frequencies but shorter monitoring periods for each operator resulting in an increase in operating efficiency. Also, two analysts provided for each Section were not enough to perform the duties of compiling transmission security and operational procedure data and incorporating these into a weekly report. Increased monitoring personnel would necessitate a corresponding increase in analysis personnel which would in turn make for a more detailed and more informative report.

The next major suggestions offered were concerned with ratings. Here, practically all Section Commanders recommended a reversion to the old system of specialists ratings and pay in place of an over-large majority of noncoms, thus nullifying the respect for non-commissioned rank and authority. In many cases it was difficult for non-commissioned authority to be enforced because so many of the monitor operators and

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trick chiefs were high-ranking noncoms.

Another fault of the T/O was its creation of a condition where men performed exactly the same type of work, but had unequal ratings. Monitor operator ratings ran from Corporal to Staff Sergeant; the two Analysts were Sergeant and Staff Sergeant respectively, and of the four Trick Chiefs, three were Staff and one was Technical Sgt. The specialist rating and pay system would eliminate these shortcomings and at the same time provide a reward for technical skill and ability.

The limiting factors on Section mobility can be summed up in one -- lack of sufficient vehicles. The number of vehicles on hand in most Sections as provided by TO&E 1-952 was not enough to permit more than one monitoring unit to be dispatched for advanced or special monitor intercept.

The question of mobility is particularly important since there were many occasions during which Radio Security Sections were required to detach smaller mobile units to perform special monitoring missions of Very High Frequency Channels. One Radio Security Section operating in Italy, resorted to the following arrangement in the performance of its monitoring missions. A ten ton AAF van was obtained and remodeled into a very efficient radio intercept room. Working conditions were very comfortable and sufficient space was available to perform all functions properly. The radio positions were so installed that the receivers could be dismounted and shelves folded back making available a complete van in which all organizational equipment could be transported when moves

were necessary. This arrangement left only the personnel to utilize the remainder of the vehicles and furnished a safe compact method for all kinds of shipment.

Few difficulties were encountered by the Sections in the channelization and delivery of weekly Security and Operations Reports and Communications Improvement Memorandums. However, attempts were made to arrive at the most efficient and judicious means of informing violating agencies of breaches of security and radio operating procedure. Two approaches were evolved which were considered to be particularly applicable to Air Forces and AACS echelons of command respectively. For Air Forces the following procedure was preferable, since it observed the element of speedy notification without sacrificing the force of higher authority. Under this system, Sections prepared CIM's for the signature of the Communications Officer of the Air Force or Command to which it was attached, at the same time furnishing the Detachment Headquarters with information copies of everything prepared. This permitted the particular Air Force or Command concerned to instigate the appropriate corrective action over its own personnel in a greater spirit of cooperation than would have been possible if the directives stemmed from an "outside" organization.

Although this system was the best that the Sections were able to develop in dealing with Air Forces it still occasioned delay in the notification of the violating station since it had to be channeled from highest to practically lowest echelon within the Air Force.

In this respect, however, those Sections monitoring for the Army

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Airways Communications System succeeded in arranging to have the immediate Headquarters of the violating station notified directly security breaches were committed. Under this arrangement successively higher AACS Headquarters were sent information copies.

When this procedure was followed, the final paragraph of CIM's was worded as follows: "This memorandum is to be indorsed and returned to Group Headquarters in compliance with Group Memorandum (No)."

A Section in Italy succeeded in making arrangements for the transmission of CIM's by direct teletype line to units desiring this service. One such, the Fifteenth Fighter Command, was very much in favor of this service since it enabled them to effect more prompt correction of deficiencies.

It was expected that some friction would be encountered in some quarters as a result of the monitoring activities of Radio Security Sections. However, these were very few and caused little hindrance to smooth operations. One example is cited as an indication of the arbitrariness which one Section encountered. In February 1945, the Commanding General of an Air Force, slightly incensed over the nature of a report pertaining to the Air Force which appeared in a Detachment Headquarters publication, ruled that all Security and Operations Reports initiated by the Section would be subject to the approval of the Air Force Air Communications Officer.

According to AAF Letter 100-14 dated 14 Feb. 1945, a Radio Security Section is authorized direct communication with Detachment Headquarters.

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Chapter V -- Conclusion.

In spite of this authority, the Section Commanding Officer hesitated to make an issue of this alteration in report submission procedure since Section activities might have been curtailed to a point where only sterile communications channels would be assigned for monitoring missions.

With regard to Section operations personnel the following observations are presented.

Trick Chiefs, with few exceptions, possessed insufficient general knowledge of radio and radio communications. This unfamiliarity with elementary radio theory with respect to radio receivers made it difficult for them to instruct radio operators in the correct method to obtain an accurate frequency measurement and in the utilization of receiver controls to obtain optimum results, such as working through crowded channels, local interference and enemy radio countermeasures. Failure to foresee the demands which would be made upon Trick Chiefs was a factor in their training deficiencies, that -- and insufficient training time. Classification of SSN 543, when properly met, meets Section Trick Chief requirements. In addition, a more thorough course of instruction on jamming and anti-jamming technique would be beneficial.

Analysis personnel performed well with their limited training and experience in radio communications procedure, communication and cryptographic security. The ideal in Traffic Analysis personnel would be those who formerly had served as radio operators, both ground point-to-point and airborne, followed by thorough training in radio traffic analysis. A short course in cryptographic elements and cryptographic

security would be desirable. To carry their training a point further, a good general knowledge of traffic analysis would be enhanced by a short course in enemy traffic analysis. Training paralleling these suggestions would give a clearer insight into problems involved in radio communications, enabling analysts to give a better security analysis of procedure practices.

## Monitor Operating Procedure

The standard operating procedure for Radio Security Sections was published in AAF Manual 100-46-1 and supplemented from time to time by directives from Detachment Headquarters. In the main, the basis approach to monitoring was the same for all Sections as has already been described in previous pages. It was natural, however, that this procedure, in some of its aspects, had to be modified to conform with theater mission requirements and geographical locations. For example, it was common practice among the Sections to alternate four shifts 24 hours daily, seven days a week. One Section in England had its monitors operate from 10 to 15 hours at a stretch on about 20 channels during bombardment missions which usually lasted from 4 A.M. to 8 P.M. When these monitoring periods were over this Section completely closed down operations during non-mission days to permit personnel to rest and relax.

Several other innovations were developed by Sections. One Section introduced the practice of using teletype paper rolls instead of single sheets to record intercepted transmissions. This permitted continuous

copy and prevented the operator from losing a portion of the intercept traffic when filled single sheets had to be replaced.

Another Section used a recorder (TCB-2P) in conjunction with a VHF receiver. By this method the monitor operator would record on the TCB-2P and monitor from the output jack on the recorder. This enabled him to play back without difficulty during lax periods and fill in whatever parts were missed.

These examples are indicative of modifications in operating procedure which were made in practically every Radio Security Section.

Section Commanders were generally agreed upon the desirability of six hour shifts of operations. It was found that both operating efficiency and morale were highest under this system. However, in too many cases an insufficiency of personnel prevented it from being used.

The various methods used by controlling agencies to request missions of Sections have already been discussed in the description of Section activities. Several difficulties have been enumerated. Some of the missions assigned to one Section were not in conformity with the essential mission of the Section. In these cases, the officers responsible for assigning missions attempted to have the Section perform work that more properly came within the jurisdiction of communications personnel within the Air Force. In another Section difficulty was encountered in getting monitored agencies to assign missions. One Air Force communications officer requested over-all coverage of all radio channels used by his Air Force without apparently desiring to assign specific missions. The result was that the monitoring of strategic bombing sorties would have been by-passed. The Section, therefore, made several requests for

Chapter V -- Conclusion.

specific missions to cover flying activities of the Air Force. Eventually these requests were acknowledged and thereafter mission assignments were telephoned weekly using code designators for channels and frequencies.

Still another difficulty faced by a Section was the negligence on the part of the command being monitored in informing the Section of the presence of new stations, call signs or frequencies within their command.

By and large the reports prepared by both the Sections and Detachment Headquarters were well received by agencies and units being monitored. Here too, AAF Manual 100-2 set forth the manner in which Section reports and Communications Improvement Memorandums were to be prepared. And here too, Sections were required to effect variations in reporting procedure and in some cases publish separate reports for controlling agencies. One Section encountered a peculiar attitude on the part of responsible individuals who did not consider a Field Manual or a Technical Manual quoted by Radio Security Sections as references for correct procedure as official and authoritative. Here again, it is believed that an appropriate AAF Reg. or AR would have corrected the situation.

The general recommendations made with regard to these reports were that they should contain wider comparisons of Commands or Units being monitored, and that they should be made interesting by the minimum use of numbers, percentages and the like and an increased emphasis on graphs, charts, diagrams and sketches.

Chapter V -- Conclusion.

## Equipment

On the whole, administrative equipment was found adequate and satisfactory. It was felt that the addition of a Machine-duplicating, Motor-Driven in place of the hand-driven model would have saved many man hours of labor and would have greatly facilitated the publication of weekly reports. Also lacking in the Sections was an 18 inch carriage typewriter which was later added in a change to TO&E 1-952.

Transportation equipment inadequacies have already been discussed previously. Equipment for the maintenance of all types of Section equipment was found adequate to meet Section needs.

Most of the criticism of Section equipment was directed against equipment used in the performance of the Section's mission-radio receivers, recorders, the Radio Intercept Central, etc. The VHF receivers and antenna RC-173 left much to be desired from the standpoint of performance. Since Communications on VHF are line of sight, and it is desirable to place the antenna as high as possible, antenna RC-173 which was 30 feet high was not high enough. The Hallicrafter Receivers S-36 were poor, falling prey to interference from adjacent channels due to the low image rejection ratios of their one-stage radio frequency amplification.

Opinion of the Radio Intercept Central TC-9 was divided. One Section Commander found it useful for mobile operations within the continental limits of the U.S. Another deemed it impractical for field operations pointing out that the huts were too heavy and hard

to handle, the ceilings were too low, and the ventilation was inadequate. Criticism was leveled against other components of the TC-9. Radio receivers BC-342 were unsatisfactory because they could not be matched properly to a doublet antenna without some modification. These should be partially deleted in favor of the BC-794 which was found satisfactory.

In place of this, one other type of VHF receiving equipment used and found superior was the SCR-574. The SCR-574, a component of the SCS-3, was used by one Section throughout its entire operations with the following comments..."the equipment worked well, the receivers having high gain, high image rejection ratios and are simple in operation... having a minimum of controls to confuse the immature operator..."

The Panoramic Adapter, (BC-1032 and BC-1031) was found to be of little value under normal Section operations. It was of some use when a Section performed roving missions, but these were usually few and far between for most Sections.

Many Radio Security Sections found it necessary to supplement their authorized equipment with other, more serviceable, more adequate and better functioning equipment obtained from various local sources. One Section found an Army Communication Service warehouse very cooperative in this respect, permitting the Section to draw upon it for any equipment deemed necessary.

The general suggestion is offered that since tables of organization and equipment are drawn up with only a general possibility of anticipating Section needs, a greater sensitivity to requests and recommendations from the field should be shown, with a marked decrease in the time elapsed before changes are made.

[redacted] UNCLASSIFIED

Chapter V -- Conclusion.

The difficulties experienced by Sections in the transmittal of equipment and documents were rather general and were probably encountered by other outfits. Some of these were: equipment arriving overseas water-soaked, rusted, broken, etc., equipment lost, strayed or stolen from overseas depots, and the usual delays in receiving mail from the States. However , no Section was greatly inconvenienced by any of these discrepancies. The same may be said of climatic conditions. Operations were only slightly affected by adverse weather and topographic conditions such as heat, sand, cyclones, rain, high wind, snow, etc. Such factors can be anticipated and solved partially by careful crating and treatment before shipment, but the final disposition rests with ingenuity of the personnel of the unit.

Several recommendations of a general nature are included in winding up the comments of Radio Security Section Commanding Officers. One of the greatest deficiencies of Section-Detachment relations was the lack of proper personal liaison between the two. Each Section should be visited at least once every six months by a representative of Detachment Headquarters for the purpose of inspection, coordination and good will. This is important since it permits Detachment Headquarters to get a first hand glance of the Sections' problems, accomplishments, shortcomings, etc., as well as to foster a spirit of attachment and unity with the parent organization. The effect of this practice would be to ensure a closely-knit, well-integrated, harmoniously-working organization.

The creation of a specific officer's Specification Serial Number for the Commanding Officer and Operations officer is necessary to define the qualifications these officers should possess due to the requirements

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peculiar to Radio Security monitoring.

Widespread and varied communications facilities found in a Tactical Air Force make it an impossibility for a Section of the present size to be an effective safeguard in security and communication discipline. Excessive mobility does not promote efficient and thorough work. Furthermore, the monitoring of a large number of AAF units permitted the lapse of too much time and restricted the amount of work which could be done for remaining units of the Command.

Maximum effectiveness is derived from the work of a Radio Security Section when it applies constant pressure keeping the command and operators security conscious at all times. In larger Air Force Commands, it was well-nigh impossible to give adequate coverage to channels because of insufficient personnel and equipment. Provision of a more flexible Table of Organization and Equipment to permit use of any number of Sections considered necessary would be more satisfactory.

* * * * * * * * * * *

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FEDERAL COMMUNICATIONS COMMISSION
ENGINEERING DEPARTMENT
NATIONAL DEFENSE OPERATIONS SECTION FIELD DIVISION
WASHINGTON, D.C.

May 9, 1942

Lieutenant General H.H. Arnold
Commanding General of the Army Air Forces
War Department
Washington, D.C.

My dear General Arnold:

This will acknowledge receipt of your communication of May 7, 1942. You advise that the Army Air Forces, under the expansion program which includes the development of radio direction finding and monitoring units to perform tasks peculiar to the Army Air Forces, request that the Commission cooperate in the training of selected personnel to operate these units and to assist in the engineering problem of selecting suitable sites on which to establish radio direction finding stations.

Please be assured that the Commission is pleased to cooperate in this program and the details as to the arrangements can be made directly with Mr. George E. Sterling, Chief of the National Defense Operations Section, Engineering Department of the Federal Communications Commission.

Sincerely yours,

/s/ James Lawrence Fly
JAMES LAWRENCE FLY
Chairman

A TRUE COPY:

William Elfert
WILLIAM ELFERT
1st Lt., Air Corps.

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GENERAL ORDERS
NO. 30

HEADQUARTERS AIR FORCE COMBAT COMMAND
Bolling Field, D.C., Feb 15, 1942.

EXTRACT

* * * * * * * * * * * *

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SECTION III

1. Pursuant to instructions contained in WD letter, AG 320.2 (1-19-42) MR-M-AAF/A-1, February 7, 1942, Subject: "Constitution and Activation of the 136th, 137th, 138th, 139th, and 140th Signal Radio Intelligence Companies", to CG AFCC, the following Signal Radio Intelligence Companies having been constituted, are activated as of February 14, 1942, at Table of Organization strength as indicated:

| UNIT | SOURCE OF CADRE | ASSIGNED TO | ACTIVATION STATION | PERMANENT STATION |
|---|---|---|---|---|
| 136th Sig Radio Intelligence Co | Sig Co, Air Force Combat Command | Hq. AFCC | Bolling Field D.C. | Bolling Field D.C. |
| 137th Sig Radio Intelligence Co | To be designated by CG, 1st AF | Hq 1st AF | Mitchel Fld N.Y. | Mitchel Fld, N.Y. |
| 138th Sig Radio Intelligence Co | To be designated by CG, 2d AF | Hq 2 AF | Spokane, Wash. | Spokane, Wash. |
| 139th Sig Radio Intelligence Co | To be designated by CG , 3d AF | Hq 3d AF | MacDill Fld, Fla. | MacDill Fld, Fla. |
| 140th Sig Radio Intelligence Co | To be designated by CG, 4th AF | Hq 4th AF | March Fld, Calif. | Hamilton Fld, Calif. |

2. The necessary transfers of personnel will be without loss of grades or specialist rating.

3. Obligate the procurement authorities cited below to the extent necessary.

* * * * * * * * * * * * * * * * * *

By Command of Major General SPAATZ:

ST CLAIR STREETT,
Colonel, General Staff Corps,
Chief of Staff

OFFICIAL:

J.H. HILLS,
Colonel, Adjutant General's Department
Adjutant General.

Distribution "A"

A TRUE COPY:
William Elfert
WILLIAM ELFERT,
1st Lt., Air Corps.

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GMK: il
10-30-42
AFTSC/TS-3

WARNING ORDERS.

1 AFTSC AFDPU
(TS-3) Att. Col.
J.W. BAYLOR
Chief,
Task Force
Section

1. Early in 1942, following an inspection of the North Atlantic Route by Lieutenant General Arnold, the necessity for continuous monitoring of all radio circuits affecting Air Corps communications to insure security and effectiveness of operations was indicated. As a result of this inspection a Signal Company Radio Intelligence was assigned to the Headquarters, Army Air Forces to perform this mission.

2. The Signal Company Radio Intelligence (136th assigned to this Directorate and with Headquarters at Bolling Field) is being set up on a tentative table of organization which will provide for a Headquarters organization and standard detachments to be dispatched to various locations. A detachment of this company has already been sent to Presque Isle, Maine, and it is desired that additional detachments be sent to Iceland and South America (Trinidad or Paramaribo). It is contemplated that additional detachments will be required at strategic locations to be determined later.

3. Experience at the Presque Isle station has resulted in improved communication security and efficiency. Conditions on the southeast ferry route now required the immediate establishment of at least two radio monitoring stations to maintain the same degree of security.

4. It is, therefore, suggested that detachments from the 136th Radio Intelligence Company for Iceland and South America be placed on immediate Warning Orders and be put on movement orders as quickly as training and equipment are complete.

5. Initially the complement of men for the Iceland detail is to consist of 9 men and one officer and the South American detail of 16 men and two officers. Each detachment is responsible through the Regional Control Officer AACS to the Director of Communications.

A.W. MARRINER
Colonel, Air Corps

A TRUE COPY:

William E Elfert
WILLIAM ELFERT,
1st Lt., Air Corps.

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WAR DEPARTMENT
THE ADJUTANT GENERAL'S OFFICER
WASHINGTON

AG 320.2 (5-4-43)
OB-I-AFRPG-M

May 7, 1943

SUBJECT: Reorganization of the 136th Signal Radio Intelligence Company.

TO: Commanding Officer,
Bolling Field, D.C.

1. The 136th Signal Radio Intelligence Company at Bolling Field, D.C. will be reorganized on May 15, 1943, in accordance with T/O 11-297, December 23, 1942, on the basis of one Headquarters platoon, and six operating platoons.

2. This reorganization will effect no change in present stations or assignment of existing detachments of this company.

3. This action will be accomplished with no reduction in grades and ratings. Filler personnel will be requisitioned in the usual manner.

4. Equipment for this unit will be in accordance with Table of Basic Allowances 11, August 1, 1942.

5. When reorganization has been completed, a report will be submitted without delay to the Service Commander concerned, and this office by letter.

6. Twenty (20) copies of the reorganization order issued pursuant to this letter will be forwarded without delay to the Commanding General, Army Air Forces (Attention: Publications Section, Air Adjutant General's Office). No other distribution will be made to offices of Headquarters, Army Air Forces.

7. Obligate the appropriate allotments published in Section II, Circular No. 206, WD 1942, to the extent necessary.

By order of the Secretary of War:
(Unintelligible)
Adjutant General

A TRUE COPY:

William Elfert
WILLIAM ELFERT
1st Lt., Air Corps.

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WAR DEPARTMENT
WASHINGTON 25, D.C.

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AG 322 (8 Mar 44)
OB-I-AFRFG-M

10 March 1944.

SUBJECT: Reorganization of the 136th Signal Radio Intelligence Company, Aviation.

TO : Commanding Officer,
136th Signal Radio Intelligence Company, Aviation,
Fort George G. Meade, Maryland

1. The 136th Signal Radio Intelligence Company, Aviation, will be reorganized and equipped at the earliest practicable date, in accordance with T/O and E 11-297, 7 July 1943, and Changes 1 and 2, by the addition of eleven (11) operating platoons, so that the Company, as augmented, will consist of one(1) Headquarters Platoon and nineteen (19) operating platoons (including Operating platoons now on detached service).

2. The augmentation consists of eleven(11) officers and three hundred ninety-six(396) enlisted men. The present strength is twelve (12) officers and three hundred thirty-six (336) enlisted men. Total new strength is as follows:

| | Off | EM | |
|---|---|---|---|
| 1 Headquarters Platoon | 4 | 48 | (Cols 3 to 7, incl) |
| 19 Operating Platoons (1 Off, 36 EM) | 19 | 684 | (Cols 8 to 10, incl) |
| | 23 | 732 | |

Officer and enlisted grades are authorized accordingly.

3. Authority is granted for the substitution of Radio Operator, High Speed (766) in lieu of intercept Operator (738) or (739), and for the substitution of Radio Repairman (648) in lieu of Radio Repairman (649) if the latter is not available.

4. Additional personnel will be requisitioned in the usual manner.

5. The date of reorganization will be reported to The Adjutant General by Letter and copies furnished the Service Commander concerned, without delay.

6. Twenty (20) copies of the order issued pursuant to this letter will be forwarded without delay to the Commanding General, Army Air Forces (Attention: Publications Branch, Management Control, Administrative Services Division). No other distribution will be made to offices of Headquarters, Army Air Forces.

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7. Obligate the appropriate allotments published in Section VI, Circular No. 129, WD, 1 June 1943, to extent necessary.

By order of the Secretary of War:

/s/ J. Poo
Adjutant General

A CERTIFIED TRUE COPY:

William Elfert

WILLIAM ELFERT
1st Lt, Air Corps

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[redacted]

HEADQUARTERS 136TH RADIO INTELLIGENCE COMPANY, AVIATION

GENERAL ORDER

Fort George G. Meade, Maryland
8 June 1944

NUMBER 2

REORGANIZATION AND REDESIGNATION OF THE 136TH SIGNAL RADIO INTELLIGENCE COMPANY, (AVN)

Pursuant to authority contained in WD, Hq., AAF letter AAF 322/2 AFACO/C-PLO, 6 June 44, Subject: "Reorganization and Redesignation", the 136th Signal Radio Intelligence Company, Aviation and the 136th Signal Operating Platoons (1 to 19 incl) are reorganized and redesignated, effective 10 June 44. They will be reorganized in accordance with T/O & E 1-952, dated 10 May 44, and redesignated as Headquarters 136th Radio Security Detachment and Radio Security Sections (1st to 19th Incl)

The total new strength is authorized as follows:

| | Off. | EM | T/O & E 1-952 |
|---|---|---|---|
| 1 Headquarters Detachment | 4 | 29 | (Cols 4 to 8, inclusive) |
| 19 Radio Security Sections (1 Off. & 36 EM ea.) | 19 | 684 | (cols 9 to 14, Inclusive) |

Officer and enlisted grades are authorized accordingly. This action will be accomplished with no reductions in grades and ratings and will effect no change in present stations or assignments of existing units of this organization.

By order of Captain CORNELL:

OSCAR PFANNER, Jr.
1st Lt., Signal Corps,
Adjutant.

/s/ Oscar Pfanner, Jr.
/t/ OSCAR PFANNER, Jr.
1st Lt., Signal Corps,
Adjutant.

DISTRIBUTION:

20 Adjutant General
20 Commanding General, Army Air Forces
15 Air Communications Officer
5 Commanding Officer, Ft.Geo.G.Meade, Md.
5 Commanding Officer, each 136th Signal Operating Platoon
30 File

A TRUE COPY:

William Elfert

WILLIAM ELFERT,
1st Lt., Air Corps.

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136TH RADIO SECURITY DETACHMENT

GENERAL ORDER

NUMBER 1

Reading Army Air Field,
Reading, Pennsylvania,
27 January 1945

REORGANIZATION OF THE 136TH RADIO SECURITY DETACHMENT

Pursuant to authority contained in WD, AG letter, AG322(23 Jan 45) OB-I-AFRPC-M, subject: "Reorganization of the 136th Radio Security Detachment", dated 24 January 1945, the 136th Radio Security Detachment is reorganized under T/O and E 1-952, 10 May 1944, and Change 1, 27 November 1944, with an authorized strength of forty-six (46) officers and seven hundred eighty-five (785) enlisted men, and will consist of one (1) Detachment Headquarters and the 1st through the 21st Radio Security Sections, as shown:

| | OFF. | WO | EM | |
|---|---|---|---|---|
| Detachment Headquarters | 4 | 0 | 29 | (Cols 4 thru 8) |
| 21 Radio Security Sections (ea with 2 Offs and 36 EM) | 42 | 0 | 756 | (Cols 9 thru 14) |
| Total Authorized Strength: | 46 | 0 | 785 | |

Officer and enlisted grades and ratings are authorized accordingly. Equipment will be in accordance with T/O and E 1-952, as amended.

This action will be accomplished with no reduction in grades and ratings and will effect no change in present stations or assignments of existing units of this organization.

This unit is within the War Department Troop Basis by Change No. 1-82 to the 1 January 1945 revision thereof.

By order of Mafor BARNES:

JOSEPH J. DOVE,
1st Lt., Air Corps,
Adjutant.

WILSON H. MORRIS,
1st Lt., Air Corps,
Operations Officer.

DISTRIBUTION:
20 Commanding General, AAF
10 The Adjutant General
10 O/ACO, Opr Div, Procedures Br.
5 CG, 3rd Service Command
5 Engineer Central Stock Control Agency
5 CO, each Section, 136th RSD
5 CO, RAAF, Reading, Pa.
20 File

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AAF TRAINING STANDARD )
NO. 50-12 )

# HEADQUARTERS 136TH RADIO SECURITY DETACHMENT
# and
# RADIO SECURITY SECTIONS

1. Training Objective. To develop a highly trained unit fully capable of:

a. Intercepting AAF radio transmissions on all frequencies.

b. Analyzing such intercepted traffic and reporting on security and operating procedure conditions.

c. Preparing communications improvement memoranda and summaries of tactical employment of frequencies with regard to volume and traffic peculiarities.

d. Reporting on interference or jamming.

e. Recommending measures for the improvement of radio security and operating procedures.

2. Units. The Unit as a whole will demonstrate efficiency in:

a. Administrative and Technical:

(1) The administration of normal housekeeping functions and maintenance of required records under field conditions.

(2) Maintenance of assigned equipment.

(3) Assembly and disassembly of equipment in the shortest possible time.

(4) Safeguarding military information.

(5) Measures and disicipline necesssary for the successful camouflage of units and equipment, especially those which operate in advanced areas.

b. Tactical:

(1) Intercepting and recording AAF radio telephone and radio telegraph transmissions.

(2) Evaluating security within AAF radio nets.



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(3) Determining the extent and nature of radio transmissions and circuit discipline.

(4) Observing, recording, and reporting on jamming or interference.

(5) Maintaining graphs and charts showing employment of frequencies.

(6) Checking AAF frequency deviations against their authorized tolerance.

(7) Preparing communications improvement memoranda and periodic security, and operating procedure reports.

(8) Recommending methods for the increase of radio security and improvement of operating conditions.

(9) Obtaining specific information through monitor intercept of friendly transmissions.

(10) Maintaining a status of portability in the sections.

(11) Maintaining all necessary communications within the sections.

3. Basic Elements, Sections, or Teams:

a. Command Unit (136th Headquarters). The personnel of the Command Unit, Headquarters, will be adept in: the direction of detachment and section activities, proper authority having been given; administration, including the preparation and distribution of forms, records and reports; the handling of correspondence; the carrying out of security regulations and procedures; the operation of office equipment; the maintenance of files of Army Regulations and War Department and AAF directives; accurate typing and other operations necessary to administration.

b. Mess-Supply-Transportation Unit (136th Headquarters). The personnel of the Mess-Supply-Transportation Unit, Headquarters, will be adept in: the preparation of menus; the procurement, storage, preparation and distribution of food; preparation of meals on field ranges; procurement, storage and issue of proper supplies and equipment; efficient operation and maintenance of motor vehicles.

c. Operations Unit (136th Headquarters). The personnel of the Operations Unit, Headquarters, will be adept in: the supervising of the technical radio operations; properly assigning special security monitoring missions; maintaining liaison with agencies engaged in similar projects.

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d. Analysis Unit (136th Headquarters). The personnel of the Analysis Unit, Headquarters, will be adept in: the analysis of intercepted traffic; the preparation and distribution of security monitoring reports; the maintenance of necessary files, charts, graphs, and records; the maintenance of liaison with other security and intelligence organizations.

e. Headquarters Unit (Section). The personnel of the Radio Security Headquarters Unit will have the same training as in paragraph 3, 1a.

f. Mess Unit (Section). The personnel of the Radio Security Mess Unit will be adept in; the preparation of menus; the procurement, storage, preparation, and distribution of food; and preparation of meals on field ranges.

g. Supply Unit (Section). The personnel of the Radio Security Supply Unit will be adept in: the preparation, procurement, storage and issue of proper supplies and equipment.

h. Transportation Unit (Section). The personnel in the Radio Security Transportation Unit will be adept in: The efficient operation and maintenance of motor vehicles.

i. CW & Voice Monitoring Unit (Section). The personnel of the Radio Security CW and Voice Monitoring Unit will be adept in: Monitoring and intercepting AAF radio transmissions; analyzing and reporting irregularities in security and operational matters; preparing summarized reports of monitor-intercept activities; use of recording equipment and making transcription of CW or voice transmissions; maintaining necessary files and records.

4. Individual Basic Element or Team Members will demonstrate proficiency in:

a. Those standards of proficiency as required by appropriate 80, 90, and 110 series Training Standards.

b. Detachment Commander. Coordinating through direct or indirect liaison the operations of the sections deployed throughout the air forces in the performance of radio security monitoring functions on a global basis.

c. Operations Officer. Supervising the technical activities of all the sections and recommending equipment variations for more effective use; determining tactical operating efficiency.

d. Analysis Officer. Supervising the analytical activities in the detachment and in all the sections; preparing of consolidated analysis results and distribution thereof; maintaining of comprehensive analysis files, charts and records; recommending of measures to improve security and operating procedures.

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e. Senior Traffic Analyst. Preparing summaries or special analysis of reports; preparing of files, charts, data, graphs, and other records; determining from traffic volume curves indications having a bearing on military security; recognizing and evaluating failures to comply with operating procedure regulations; transcribing material obtained from special missions or other recordings. Familiarity with communications security regulations is required of this specialist.

f. Section Commander. Maintaining liaison with AAF and other organizations in radio security affairs; commanding isolated unit with complex operational functions in accordance with the directives of higher headquarters; preparing effective AAF correspondence dealing with radio communications and security matters. (Accuracy, tact, brevity and the ability to inspire cooperation, are some of the qualities required in correspondence concerning lapses in security or other dangerous practices).

g. Radio Intelligence Control Technicians and Section Traffic Analysts:

(1) Analysis. Duties identical with those outlined in paragraph 4e above.

(2) Operations. Continuous and efficient monitor-intercept on a 24-hour basis; properly assigning routine and special missions; employment of switchboard, teletype, intercommunications, recording, radio and other highly technical equipment.

5. General:

a. Basic Training. Deficiencies in basic training will be corrected.

b. Movement. Standing Operating Procedures (including loading tables for movement by railroad, truck, aircraft, or ship) will be established and maintained so that movements may be made with least delay and difficulty.

c. Physical Training. A continuous progressive physical training program will be conducted.

d. Chemical Warfare. Training will include identification and characteristics of chemical agents, treatment of casualties, defense against chemical attacks, decontamination, and control of incendiaries.

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e. Defense against Air and Ground Attack. Training will include organization and methods of repelling and minimizing air and ground attacks.

f. Preparation for Overseas Movement. All officers and key noncommissioned officers will be familiar with pertinent POM instructions.

6. References. FM 21-6, 21-7 and all changes thereto will be used as a source for reference material. In addition, the following references will be used.

A. AAF Manual 100-2, Headquarters 136th Radio Security Detachment and Radio Security Sections.

b. Intelligence reports and letters.

c. WD information bulletins.

d. Army Regulations.

e. AAF Regulations.

f. AAF Memorandums.

g. WD Training Circulars.

h. AG Letters pertaining to Communication Security.

By Command of General ARNOLD:

BARNEY M. GILES
Lieutenant General, United States Army
Chief of Air Staff

DISTRIBUTION:
"X"

A TRUE COPY:
William Elfert
WILLIAM ELFERT
1st Lt., Air Corps.

4-9587 , AF



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C-4 ARMY AIR FORCES DATE 22 April 1945

COMMUNICATIONS IMPROVEMENT MEMORANDUM

FROM: Commanding Officer, 8th Radio Security Section, APO 719.

TO: Commanding General, Thirteenth Air Force, APO 719, Attn: Communications Officer.

Ref: AAF Regulation 100-10, Paragraph 7.e.

1. The intercepted voice message quoted below represents a three-fold breach of security, each phase of which is prohibited by existing regulations. First, IFF is mentioned; second, Dulag, a confidential location, is named; and third, the exact location of the aircraft is divulged--all three of these in the clear.

2. These disclosures of classified information in the clear in Air-Ground communications are constant threats to the effectiveness of airborne missions. This unnecessary endangering of military personnel and equipment is a direct result of carelessness on the part of the radio operator. The presence of security discrepancies of this type may be indicative of the necessity for increased emphasis on security of radio transmissions.

3. The use of the word "COCKEREL" has been prescribed by CCBP-11 for all references to IFF. "COCKEREL IS STRANGLED" should have been transmitted in place of "IFF IS OPERATING INCORRECTLY". The code word "CLIPPER" should have been substituted for the confidential location "DULAG". Distance and direction of aircraft should have been conveyed in unintelligible form using the current code grid as outlined in the SOI in effect.

4. This memorandum is forwarded for your information only. No reply is necessary.

WILSON H. MORRIS,
Captain, Air Corps,
Commanding.

INTERCEPT DATE: 21 April 1945 FREQ. UNDER OVSERVATION 4475 KCS.

| TIME I | 0218 | TRANSMISSION |
|---|---|---|
| | AUSTERE THIS IS X622 | WE HAVE BOGEY IFF IS NOT PUTTING SIGNAL WE ARE MAKING FOR DULAG OVER |
| | X622 THIS IS AUSTERE | YOU ARE VERY WEAK AND CUT OUT |
| | AUSTERE FROMX622 | WE HAVE A BOGEY IFF IS OPERATING INCORRECTLY WE ARE MAKING FOR DULAG OVER |
| | X622 FROM AUSTERE | YOU ARE VERY GARBLED UNDERSTAND YOUR IFF IS OUT OF COMMISSION |
| | X622 THIS IS AUSTERE | WHAT IS YOUR POSITION NOW |
| | AUSTERE THIS IS X622 | WILL YOU WAIT OVER |
| | X622 THIS IS AUSTERE | WILL YOU SAY AGAIN YOU ARE CUT OUT OVER |
| | X622 THIS IS AUSTERE | NEGATIVE FIRST PART OF MESSAGE OVER |
| 0222 | AUSTERE THIS IS X622 | WE ARE 80 MILES SOUTHEAST OF DULAG OVER |

[redacted]

A TRUE COPY:
WILLIAM ELFERT
1st Lt., Air Corps.

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DATE 17 September '45

COMMUNICATIONS IMPROVEMENT MEMORANDUM

FROM: 9TH RADIO SECURITY SECTION

TO : COMMAND SIGNAL OFFICER, IX AIR FORCE SERVICE COMMAND
A.P.O. 149, UNITED STATES ARMY

REF : FM 24-10, TM 11-454

1. STANDARD OPERATING PROCEDURES AS OUTLINED IN THE ABOVE MANUALS ARE NOT BEING FOLLOWED IN SOME AREAS, AS IS INDICATED BY THE COMPILATION OF VIOLATIONS BELOW.

2. ANY DEVIATION FROM PROPER PROCEDURE TENDS TO LENGTHEN THE TRANSMITTING TIME. IT FOLLOWS THEREFORE THAT OTHER STATIONS MAY BE DEPRIVED OF THE USE OF THE FREQUENCY DURING THIS TIME. ALL COMMUNICATIONS MUST BE AS SHORT AND CONCISE AS POSSIBLE. THUS INCREASING THE RATE OF EFFICIENCY.

3. THIS MEMORANDUM IS FORWARDED FOR INFORMATION AND APPROPRIATE CORRECTIVE ACTION. NO REPLY IS NECESSARY.

RICHARD A. HAY
CAPTAIN, AIR CORPS
COMMANDING

---

COMPILATIONS

INTERCEPT DATE: 6 TO 16 SEPTEMBER '45

FREQ. : 5510 KCS.
STATION (S) : DJPA, DJPE, DJPH, DJPHI, DJPS, DJPI, DJSC, DJPC, DJSD, DJPD, DJPG
COMMAND : HQ. IX AFSC, 34TH, 44TH, 45TH, 10TH
AIR FORCE : 30TH ADG'S 473 ASG.
9TH AIR FORCE

| TYPE OF DISCREPANCY: | TIMES COMMITTED |
|---|---|
| EXCESSIVE USE OF AA. | 66 |
| USE OF AA TO INDICATE CONTINUATION OF TRANSMISSION. | 415 |
| OMISSION OF AR OR K AT THE END OF TRANSMISSION. | 188 |

[redacted]



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INTERCEPT DATE: 6 TO 16 SEPTEMBER '45

FREQ. : 5510 KCS.

STATION (S) : DJPA, DJPE, DJPH, DJPH1, DJPS, DJPI, DJSC, DJPC, DJSD, DJPD, DJPG

COMMAND : HQ. IX AFSC, 34TH, 44TH, 45TH, 10TH. 30TH ADG'S 473 ASG.

AIR FORCE : 9TH AIR FORCE

| TYPE OF DISCREPANCY: | TIMES COMMITTED |
|---|---|
| USE OF BOTH AR AND K OR ONE IN PLACE OF THE OTHER. | 11 |
| REPLY TO TRANSMISSIONS WHICH HAVE ENDED IN AR. | 39 |
| EXCESSIVE USE OF AR. | 11 |
| EXCESSIVE USE OF AS. | 156 |
| OMISSION OF PROSIGN.B WHEN REQUIRED. | 72 |
| USE OF AAA INSTEAD OF B TO SEPARATE PORTIONS OF A LONG MESSAGE. | 23 |
| EXCESSIVE USE OF BT. | 11 |
| EXCESSIVE USE OF C. | 44 |
| USE OF A SERIES OF E'S FOR BREAK-IN. | 14 |
| USE OF E AS A RECEIPT. | 41 |
| STARTING TRANSMISSIONS WITH A SERIES OF E'S. | 6 |
| USE OF GR IN A PROCEDURE MESSAGE. | 15 |
| USE OF GR WHEN REQUESTING REPETITION OF A SPECIFIC GROUP. | 13 |
| USING A SEPARATIVE SIGN AS A RECEIPT. | 2 |
| EXCESSIVE USE OF SEPARATIVE SIGN. | 145 |
| USE OF IMI AS AN ERASE SIGN. | 36 |
| EXCESSIVE USE OF IMI. | 161 |
| EXCESSIVE USE OF INT. | 19 |
| EXCESSIVE USE OF K. | 72 |
| EXCESSIVE USE OF R. | 121 |
| UNNECESSARY RECEIPT FOR TRANSMISSION. | 495 |
| EXCESSIVE USE OF V AS TEST. | 8 |
| FAILURE TO FOLLOW A SERIES OF V'S WITH THE PROPER CALL SIGN WHEN TESTING. | 81 |
| STARTING TRANSMISSION WITH A SERIES OF V'S. | 8 |
| EXCESSIVE REPETITION OF OPERATING SIGNALS. | 227 |
| FAILURE TO INCLUDE NECESSARY INFORMATION WITH AN OPERATING SIGNAL. | 7 |
| USE OF OPERATING SIGNAL WHEN NO SIGNAL IS REQUIRED OR AUTHORIZED. | 2 |
| EXCESSIVE REPETITION OF THE CALL. | 35 |
| USE OF MORE CALL SIGNS FOR THE RECEIVING STATION THAN FOR THE TRANSMITTING STATION OR VICE-VERSA. | 238 |
| UNNECESSARY REQUESTS FOR SIGNAL STRENGTH AND READABILITY REPORTS. | 33 |
| USE OF DE IN PLACE OF V. | 19 |
| USE OF TEST AS A TEST. | 5 |
| USE OF HAM EXPRESSIONS (SUCH AS HW, FB, CUL, OM, ECT) | 4 |
| USE OF XE AS A SEPARATOR SIGN. | 2 |
| USE OF TOO TO INDICATE TIME OF ORIGIN | 16 |
| INCORRECT METHOD OF SEPARATION OF LONG MESSAGES INTO PARTS. | 11 |
| UNNECESSARY REPETITION OF GROUPS WHEN TRANSMITTING MESSAGES IN PORTIONS. | 30 |
| TRANSMISSIONS OF EXCESSIVE OR UNNECESSARY INFORMATION WITH OPERATING SIGNALS. | 38 |
| UNNECESSARY SIGNAL STRENGTH AND READABILTIY REPORTS | 7 |

COMPILATIONS

INTERCEPT DATE: 10 TO 15 SEPTEMBER '45

FREQ. : 4768KCS.
STATION (S) : DJPC, DJPCA, DJPT, DJQH, DJQB, DJQD, DJQX
COMMAND : 10TH ADG, 474TH, 493TH, 486TH, ASG'S, 6TH AIRDROME SQ.,
AIR FORCE : 9TH AIR FORCE 21ST AIR DIS. GP.

| TYPE OF DISCREPANCY: | TIMES COMMITTED |
|---|---|
| EXCESSIVE USE OF AA. | 2 |
| USE OF AA TO INDICATE CONTINUATION OF TRANSMISSION. | 16 |
| OMISSION OF AR OR K AT THE END OF TRANSMISSION. | 9 |
| REPLY TO TRANSMISSIONS WHICH HAVE ENDED L. AR | 15 |
| EXCESSIVE USE OF SEPARATIVE SIGN | 33 |
| EXCESSIVE USE OF IMI. | 17 |
| EXCESSIVE USE OF INT. | 3 |
| EXCESSIVE USE OF K. | 22 |
| EXCESSIVE USE OF R. | 22 |
| UNNECESSARY RECEIPT FOR TRANSMISSION. | 18 |
| FAILURE TO FOLLOW A SERIES OF V'S WITH THE PROPER CALL SIGN WHEN TESTING. | 15 |
| IMPROPER POSITION OF PROSIGN V. | 30 |
| STARTING TRANSMISSION WITH A SERIES OF V'S. | 4 |
| EXCESSIVE REPETITION OF OPERATING SIGNALS. | 97 |
| FAILURE TO INCLUDE NECESSARY INFORMATION WITH AN OPERATING SIGNAL. | 3 |
| EXCESSIVE REPETITION OF THE CALL. | 4 |
| USE OF MORE CALL SIGNS FOR THE RECEIVING STATION THAN FOR THE TRANSMITTING STATION OR VICE-VERSA. | 62 |
| UNNECESSARY REQUESTS FOR SIGNAL STRENGTH AND READABILITY REPORTS. | 2 |
| USE OF TEST AS A TEST. | 3 |
| USE OF VE (SN) FOR BREAK-IN OR AS. | 3 |
| USE OF TOO TO INDICATE TIME OF ORIGIN. | 2 |
| TRANSMISSION OF EXCESSIVE OR UNNECESSARY INFORMATION WITH AN OPERATING SIGNAL. | 7 |
| UNNECESSARY SIGNAL STRENGTH AND READABILITY REPORTS. | 3 |
| USE OF PLAIN LANGUAGE IN PLACE OF APPLICABLE PROSIGNS OR OPERATING SIGNALS. | 1 |
| EXCESSIVE USE OF AS. | 19 |
| EXCESSIVE USE OF C. | 2 |
| USE OF E AS A RECEIPT | 5 |
| STARTING TRANSMISSIONS WITH A SERIES OF E'S. | 2 |

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COMPILATIONS

INTERCEPT DATE: 6 TO 8 SEPTEMBER '45

FREQ : 5490 KCS.
STATION (S) : DJPA, DJQE, DJPG
COMMAND : HQ IX AFSC, 490TH ASG, 43RD ADG.
AIR FORCE : 9TH AIR FORCE

| TYPE OF DISCREPANCY: | TIMES COMMITTED |
|---|---|
| USE OF AA TO INDICATE CONTINUATION OF TRANSMISSION. | 11 |
| OMISSION OF AR OR K AT THE END OF TRANSMISSION. | 2 |
| REPLY TO TRANSMISSIONS WHICH HAVE ENDED IN AR | 3 |
| EXCESSIVE USE OF AS. | 6 |
| EXCESSIVE USE OF C. | 2 |
| EXCESSIVE USE OF SEPARATIVE SIGN. | 1 |
| USE OF IMI AS AN ERASE SIGN. | 3 |
| EXCESSIVE USE OF R. | 1 |
| UNNECESSARY RECEIPT FOR TRANSMISSION. | 17 |
| EXCESSIVE REPETITION OF OPERATING SIGNALS. | 3 |
| EXCESSIVE REPETITION OF THE CALL. | 2 |
| USE OF MORE CALL SIGNS FOR THE RECEIVING STATION THAN FOR THE TRANSMITTING STATION OR VICE-VERSA. | 3 |
| UNNECESSARY REQUESTS FOR SIGNAL STRENGTH AND READABILITY REPORTS. | 1 |

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COMPILATIONS

| | | |
|---|---|---|
| INTERCEPT DATE: | | 6-9 SEPTEMBER '45 |
| FREQ | : | 4035 KCS |
| STATION (S) | : | DJPA DJPF DJPE |
| COMMAND | : | HQ IX AFSC, 34TH, 42ND ADG |
| AIR FORCE | : | 9TH AIR FORCE |

| TYPE OF DISCREPANCY: | TIMES COMMITTED |
|---|---|
| REPLY TO TRANSMISSIONS WHICH HAVE ENDED IN $\overline{AR}$. | 1 |
| EXCESSIVE USE OF SEPARATIVE SIGN. | 1 |
| EXCESSIVE USE OF $\overline{IMI}$. | 1 |
| EXCESSIVE USE OF K. | 1 |
| EXCESSIVE USE OF R. | 1 |
| UNNECESSARY RECEIPT FOR TRANSMISSION. | 2 |
| STARTING TRANSMISSION WITH A SERIES OF V'S. | 1 |
| EXCESSIVE REPETITION OF OPERATING SIGNALS. | 8 |
| USE OF MORE CALL SIGNS FOR THE RECEIVING STATION THAN FOR THE TRANSMITTING STATION OR VICE-VERSA. | 7 |

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COMPILATIONS

INTERCEPT DATE: 13 TO 15 SEPTEMBER '45

FREQ. : 4130 KCS
STATION (S) : DJPD, DJPW, DJPX, DJPY
COMMAND : 30TH, ADG, 478TH, 481ST, 482ND ADG'S
AIR FORCE : 9TH AIR FORCE

| TYPE OF DISCREPANCY: | TIMES COMMITTED |
|---|---|
| USE OF AA TO INDICATE CONTINUATION OF TRANSMISSION. | 24 |
| OMISSION OF AR OR K AT THE END OF TRANSMISSION. | 2 |
| REPLY TO TRANSMISSION WHICH HAVE ENDED IN AR. | 14 |
| EXCESSIVE USE OF AR. | 11 |
| EXCESSIVE USE OF AS. | 18 |
| EXCESSIVE USE OF BT. | 2 |
| USE OF E AS A RECEIPT. | 18 |
| USE OF IMI AS AN ERASE SIGN | 1 |
| EXCESSIVE USE OF IMI. | 16 |
| EXCESSIVE USE OF INT. | 7 |
| EXCESSIVE USE OF K. | 17 |
| EXCESSIVE USE OF R. | 47 |
| UNNECESSARY RECEIPT FOR TRANSMISSION. | 19 |
| FAILURE TO FOLLOW A SERIES OF V'S WITH THE PROPER CALL SIGN WHEN TESTING. | 12 |
| STARTING TRANSMISSION WITH A SERIES OF V'S. | 3 |
| EXCESSIVE REPETITION OF OPERATING SIGNALS. | 30 |
| EXCESSIVE REPETITION OF THE CALL. | 6 |
| USE OF MORE CALL SIGNS FOR THE RECEIVING STATION THAN FOR THE TRANSMITTING STATION OR VICE-VERSA | 35 |
| UNNECESSARY REQUESTS FOR SIGNAL STRENGTH AND READABILITY REPORTS. | 6 |
| USE OF TEST AS A TEST. | 2 |
| USE OF VE (SN) FOR BREAK-IN OR AS. | 15 |
| UNNECESSARY REPETITION OF GROUPS WHEN TRANSMITTING MESSAGES IN PORTIONS. | 2 |
| OPERATOR CHATTER. | 6 |
| OPERATORS PLAYING WITH KEY. | 4 |
| USE OF PLAIN LANGUAGE IN PLACE OF APPLICABLE PROSIGNS OR OPERATING SIGNALS. | 1 |

A TRUE COPY:

William Elfert
WILLIAM ELFERT
1st Lt., Air Corps.

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503d AAF Base Unit
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Orlando, Florida
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ATTN: TSPTRIB

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Air Transport Command
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San Antonio, Texas

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San Antonio, Texas

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Macon, Georgia



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Service Command
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ATTN: Air Communications Officer

Chief Signal Officer
War Department
ATTN: SPSIS-4B1
Room 3-C-340 Pentegon
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924th Signal Company Depot, Aviation
Kelly Field, San Antonio, Texas

Commanding Officer
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Wright Field, Dayton, Ohio
ATTN: Training Division

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Washington, 25, D.C.
ATTN: Colonel S.S. Lamb

Commanding Officer
Radio Gunner School
Yuma, Arizona
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Victoria, Kansas

Commanding Officer
Great Bend Army Air Field
Great Bend, Kansas

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Peterson Field,
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Ardmore, Oklahoma

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315th BW, VH
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Central Regional Control Office
Colorado Springs, Colorado
ATTN: Major V.J. Poncik



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(Hq 68th AACS Gp)
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(139th AACS SQDN) , AAF
APO#923, c/o Postmaster
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(142nd AACS Sqdn), AAF
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(Hq 70th AACS Gp)AAF
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(145th AACS Sqdn), AAF
APO#953, c/o Postmaster
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(1st AAFBU, Sec O
(146th AACS Sqdn), AAF
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San Francisco, California

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(147th AACS Sqdn), AAF
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(148th AACS Sqdn),AAF
APO#331, c/o Postmaster
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Commanding Officer
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(Hq 71st AACS Gp), AAF
APO#502-1, c/o Postmaster
San Francisco, California

Commanding Officer
91st AAFBU, Sec T
(149th AACS Sqdn),AAF,
APO#502-1, c/o Postmaster
San Francisco, California

Commanding Officer
91st AAFBU, Sec U
(150th AACS Sqdn),AAF
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# RADIO SECURITY
# AND
# OPERATIONAL PROCEDURE
# REPORT
## (SORD--15)

15 SEPTEMBER 1945

HEADQUARTERS ARMY AIR FORCES

136TH RADIO SECURITY DETACHMENT

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HEADQUARTERS ARMY AIR FORCES

136TH RADIO SECURITY DETACHMENT
READING ARMY AIR FIELD

# SECURITY AND OPERATIONAL PROCEDURE REPORT

## INTRODUCTION

15 SEPTEMBER 1945

* * * * * *

1. The material contained in this report was prepared from data submitted by component Radio Security Sections of the 136th Radio Security Detachment. The primary function of this organization is to monitor AAF radio transmissions for the purpose of determining violations of radio operating procedure and radio transmission security and to make suggestions and recommendations with a view towards improving communications security and efficiency. Call signs and place names used in message examples are fictitious.

2. This report contains material submitted to this Headquarters during the first half of August. Controlling agencies of the stations monitored are: Army Airways Communications System, Air Transport Command, 4th, 5th, 7th, 8th, 9th, 10th, 11th, 13th, 20th, and Far East Air Forces.

3. This report is distributed to Divisions of the Office of the Air Communications Officer; Assistant Chief Air Staff, Intelligence; War Department General Staff G-2; Headquarters of all Air Forces; Air Transport Command and all ATC Divisions; Army Air Forces Tactical Center; Air Technical Service Command and General Staff School; and the Chief Signal Officer.

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PART ONE

SECURITY

4. It is of utmost importance that lessons concerning radio transmission security which have been learned during this war should not be ignored during the establishment and training of a peace time Air Force.

5. The tremendous qualitative and quantitative superiority in equipment coupled with the courage of our Air Force personnel has contributed greatly to the final victory. These great strengths have tended to create a disregard for some phases of warfare in which we are weak. A general lack of security consciousness particularly in the field of radio communications has been outstanding. Although much improvement was shown during the last eight months of the war, detailed military information could be obtained from Army Air Force radio transmissions the world over. We should not disregard the importance which our enemies attached to intelligence which they derived from intercepted AAF radio traffic despite the fact that they are now defeated. It is interesting to note that various captured documents and enemy prisoners of war often remark upon the comparative ease with which their radio interceptors obtained information from USAAF radio transmissions as against those of our Allies.

6. Radio, with its many new applications, will become increasingly important in future Air Force communications and the need for strict security even greater. It should not be expected that a quantitative superiority in material will always necessarily be an advantage in warfare. However, intelligence regarding the enemy will always be one of the most potent of weapons. Security consciousness must become second nature to every member of the Air Forces. It will be necessary for those in the field of radio communications to realize their obligation to work unceasingly to develop this consciousness in all future users of radio communications.

7. THE STATEMENTS CONTAINED IN THE BOXED ITEMS THROUGHOUT THE REPORT ARE FROM CAPTURED JAPANESE DOCUMENTS.

8. Over a three week period a Radio Security Section in the Pacific monitored two Air Support Nets, A Bomber Point-to-Point Net, a Fighter Point-to-Point Net, a Signal Aircraft Warning Net, two air Force Point-to-Point Nets and an Airdrome Control Channel. The material presented from this three week period of radio monitoring is believed to present a typical picture of varied phases of AAF radio communications. Monitored traffic was composed of messages from many different types of units and from transient aircraft representing 12 airfields--some of which were major bases in the Pacific. Air Transport Command, Air Evacuation and Combat Cargo traffic is represented as well as traffic from several Air Forces operating in or adjacent to the area.

[redacted]

PART ONE -- SECURITY (Continued)

9. Application of security measures was good on C/W channels but pilots and operators were quite lax in their administration of security regulations when using Voice channels. During the first week, 41 security violations were made on the Voice channels monitored. Arriving and departing flights of aircraft were easily followed. The traffic emanated from at least 12 different strips and airfields representing an area covering more than 100,000 square miles on a zone considered as one of the "hubs" of extensive military operations in the South Pacific. During the first week, 22 points of departure and destination were mentioned in clear over VHF channels. The following excerpts are typical of many that were monitored during the week.

> "BLACKBALL TOWER FROM ARMY 1234 I DEPARTED FROM (name of major airfield) at 0600."
>
> "BLACKBALL TOWER FROM LOBSTER EGG-PLANT IS FLYING LOW OVER (name of airfield)."
>
> "LOBSTER FROM 3456 WILL YOU CHANGE OUR CLEARANCE TO (name of airfield) FROM (name of another airfield)."
>
> "BLUE BIRD TOWER FROM 6789 WILL YOU CHANGE OUR CLEARANCE TO (name of airfield) HAVE THREE LITTERS AND SIX BLANKETS BROUGHT TO THE PLANE WHEN WE LAND. WE ARE FROM (name of airfield)."

..IT MAY BE SEEN IN THE ACCUMULATION OF BATTLE LESSONS WHICH FOLLOW THAT MAKING USE OF ENEMY COMMUNICATION IS OF GREATER VALUE IN OPERATIONS. IN ADDITION TO PERFECTING OUR OWN COMMUNICATION SECURITY, WE MUST DO OUR UTMOST TO DEVELOP OUR OWN OPERATIONS ADVANTAGEOUSLY BY OBTAINING ENEMY INTELLIGENCE THROUGH THE USE OF RADIO...

10. In addition to identification of airfields and strips in the clear, 7 military units in operation on an island in the South Pacific were identified. These units included a BOMB GROUP, a TROOP CARRIER WING, a GENERAL HOSPITAL UNIT, two COMBAT CARGO SQUADRONS, AIR TRANSPORT COMMAND UNITS and UNITS of the FAR EAST AIR SERVICE COMMAND. Following are examples of clear text transmissions which identify units in operation in the area.

> "GINGERBREAD TOWER WILL YOU HAVE BOMB GROUP MEET US WITH TRANSPORTATION"

[redacted]

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PART ONE -- SECURITY (Continued)

"BLACKTOP THIS IS XZ3 WILL YOU NOTIFY___TROOP CARRIER WING OF OUR ARRIVAL"

"HIGHBALL THIS IS SPEEDBALL I AM 5 MILES EAST OF YOU REQUEST TRANSPORTATION TO THE __GENERAL HOSPITAL"

"BLACKTOP 123 WILL YOU NOTIFY AIR TRANSPORT COMMAND OPERATIONS I AM PASSING BY ENROUTE TO (name of major airfield)."

11. Traffic was carried on in such a manner as to make it simple for enemy analysts to get a clear picture of the nature and extent of operations in the theater. All this information could have been denied to the enemy by using an efficient system of code words and call signs. Much of the content of the messages transmitted could have been omitted without defeating the purpose of the messages. Several messages were monitored which disclosed type of cargo aboard planes requesting landing instructions.

..MOREOVER, MAKING USE OF ENEMY COMMUNICATIONS INVOLVES THE INTERCEPTION OF ENEMY COMMUNICATIONS OVER A BROAD AREA AND OVER A PROLONGED PERIOD OF TIME, THE COLLECTING OF MATERIAL (DATA) AND THE DRAWING OF CONCLUSIONS FROM THIS; ALSO LISTENING TO RELEVANT ENEMY COMMUNICATIONS AND MAKING TACTICAL USE OF IT. OF COURSE, THOUGH THERE IS NO SHARP DISTINCTION BETWEEN THESE TWO, THE FORMER IS GENERALLY DONE BY SHORE UNITS WHICH HAVE GREATER FACILITIES FOR IT. THE SYNTHESIZING OF ALL SORTS OF INTELLIGENCE AND FORWARDING OF IT TO PROPER PARTIES IS GENERALLY SATISFACTORY FOR PRESENT PURPOSES; HOWEVER, CONTINUED EFFORT TOWARDS ITS PERFECTION IS ESSENTIAL...

12. During the second week of monitoring, which lasted from the 11th to the 17th of July, 13 units were disclosed and 20 destinations of aircraft were revealed. Six messages were monitored which disclosed type of cargo aboard.

13. At the end of the third week of monitoring this Radio Security Section had compiled from clear text Voice transmissions a total of 93 messages each of which contained Security violations! A total of 17 airfields and strips had been disclosed and 50 destinations to and from these airfields had been revealed. Eleven messages revealing types of cargo were on record and 27 messages containing information such as names of VIP and persons belonging to organizations were recorded.

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[redacted]

PART ONE -- SECURITY (Continued)

..THE MOVEMENT OF ENEMY PLANES AND AIR BASES IN THE ALEUTIAN ARCHIPELAGO WAS IN GENERAL INFERRED BY VARIATIONS OF SIGNAL STRENGTH. THIS WAS USED TO ADVANTAGE IN OPERATIONS...

14. Control towers are to be commended for their efforts during the past month to educate new pilots and operators from airborne aircraft on the importance and practicability of security measures. With continued effort and cooperation of all units concerned the security of radio communication can be increased appreciably.

15. Code words, call signs and frequencies were subjected to compromise on numerous occasions during the month. Operators do not seem to realize the importance of code words and phrases or the security afforded by call signs. Code words when used properly deny the enemy knowledge concerning activity and operation of units. A code word is compromised when used in the same sentence as its meaning or counterpart. Following are typical examples showing compromise of code words.

"WE CLEARED YOUR STRIP AND ARE GOING TO BIGTOP"

"WE ARE GOING TO LEYTE WE CLEARED YOUR STRIP"

" THE CALL SIGN FOR XZ3 IS YOKEL INSTEAD OF MICROBE"

"YOU ARE USING WRONG CALL FOR XZ3 THE CALL IS YOKEL"

"SCREWBALL 36 THIS IS SCREWDRIVER 2 CALLING MONKEY 7 AT MANILA MONKEY 7 IS MANILA"

...IN ONE OF THE SOLOMONS ENGAGEMENTS THE ENEMY'S RADIOTELEPHONE CAME IN VERY CLEARLY AND WE WERE ABLE TO INTERCEPT EASILY...SINCE THE GREATER PART WAS IN PLAIN LANGUAGE, WE WERE ABLE TO OBTAIN A GOOD DEAL OF INFORMATION ABOUT THE ENEMY...

16. Tactical frequencies are classified and wide dissemination of those in use or to be used should be curtailed at all times. Most radio stations or nets have an alternate frequency upon which they can operate in case of enemy jamming, atmospherics or emergency. If frequencies for contemplated use are not given over the air in clear, the enemy must make a laborious search of the frequency spectrum in order to pick up our frequencies. When such messages

PART ONE -- SECURITY (Continued)

as "QSY 2222" (Change to transmission on 2222 Kcs.) or "QSV 2333" (send a series of V's followed by call sign on 2333 Kcs.) are sent over the air, the job of the enemy radio intelligence monitors is greatly simplified. The code word for the frequency to be used should always be sent when it is necessary to guard the frequency from compromise. Instead of "QSY 2222" the message should read "QSY GRANITE", (code word for frequency 2222)

17. The following transmission was picked up by monitors listening in on AAF frequencies during the past month.

"ABC V DEF NR1 GR8 AAA WHAT IS CALL SIGN AND FREQUENCY FOR DELMONTE TOWER AAA K K"

"DEF V ABC -- CALL SIGN IS BALLET-- FREQUENCY IS4444 K"

..THROUGH THE INTERCEPTION OF ENEMY COMMUNICATIONS ON THE EIGHTH WE LEARNED THAT ENEMY AIRCRAFT TRANSMITTED A CODED DISPATCH AT 0245 IN THE MORNING, DEDUCED THAT ENEMY SEARCHPLANES HAD DISCOVERED AND WERE APPROACHING OUR FORCES. THUS WE WERE ABLE TO ANTICIPATE THE TIME OF THEIR ATTACK. THIS PROVED MOST VALUABLE IN AIR DEFENSE..

18. When such transmissions are made, AAF operators are actually expediting the interception of their own traffic by the enemy. Several such transmissions were made during the period covered by SORD 15. Call signs and frequencies are fictitious.

19. During the period covered by this report, two Radio Security Sections monitored Air/Ground Liaison frequencies used by a tactical Air Force operating in the Pacific against the Japanese. Traffic from eight strikes against the Japanese homeland was recorded and analyzed. This analysis showed that the Japanese radio intelligence agents could easily gain pertinent information as to the time strikes would be made. The information was given away by the apparently harmless transmission of "F" messages by all Wings participating in the missions while the planes were in flight TO THE TARGET!!

..WE COULD TELL THAT A LARGE ENEMY FORMATION HAD TAKEN OFF FROM THE GREAT NUMBER OF TRANSMITTER TUNING LIKE SOUNDS.

THROUGH THE INTERCEPTION OF ENEMY FIGHTER TELEPHONE COMMUNICATIONS WE REPORTED TO THE AIR UNIT COMMANDER(S) THAT THE ENEMY WAS WELL SCREENED...

PART ONE -- SECURITY (Continued)

20. During the first strike under observation the aircraft from all Wings took off at 1630Z. The time over the target was between 0030Z and 0200Z. During the flight of the aircraft to the target. Ground Stations transmitted five "F" messages.

21. The second strike was carried out four days later and all Wings with the exception of one transmitted "F" messages to their respective aircraft while in flight to the target. During each of the SIX succeeding strikes against the Japanese homeland nearly all of the Wings participating in the missions sent a number of "F" messages to their planes while enroute to the target. With no other information except that gleaned from monitoring of AAF radio traffic, operators from our Radio Security Sections were able to follow the flights of the tactical aircraft on their missions. Moreover, by compiling call signs of the transmitting stations sending "F" messages, the number of Wings participating in the raids could be clearly deduced.

..AT THE TIME OF THE ATTACK ON PEARL HARBOR CARRIER BOMBER AND FIGHTER UNITS PICKED UP THE HONOLULU RADIO ON THE TYPE "KU" (HOMING) AND USED IT TO GOOD ADVANTAGE IN THEIR ATTACK.....

22. An "F" message is usually considered one of the most secure types of messages as far as analysis of traffic is concerned. However, it becomes readily apparent that a method which on the surface seems to reveal nothing of importance, when more closely scrutinized reveals vital information.

FOLLOWING ARE THE SECURITY VIOLATIONS TABULATED BY THE 136TH RADIO SECURITY DETACHMENT FOR AAF COMMUNICATIONS PERSONNEL FOR THE PERIOD COVERED BY SORD 15.

| | |
|---|---|
| USE OF SUPERSEDED CALL SIGNS | 60 |
| USE OF PLAIN TEXT IN PLACE OF ORIGINATOR'S OR ADDRESSEE'S CALL SIGN | 4 |
| TRANSMISSION OF CALL SIGNS TOGETHER WITH LOCATION WHEN CLASSIFIED | 10 |
| ASSOCIATING A PLANE'S SERIAL NUMBER WITH ITS CALL SIGN | 3 |
| TRANSMITTING WITH A CHARACTERISTIC FIST | 10 |
| COMPROMISE OF CLASSIFIED CODE NAMES | 14 |
| UNAUTHORIZED TRANSMISSIONS OF OPERATIONAL INFORMATION IN THE CLEAR | 106 |
| TRANSMISSION OF INFORMATION AS TO QUANTITY AND/OR TYPES OF AIRCRAFT IN OPERATION IN COMBAT AREAS | 23 |
| TRANSMISSION OF NAMES OF PASSENGERS AND/OR CREW IN AIRCRAFT | 14 |
| FAILURE TO CRYPTOGRAPH AIRCRAFT MOVEMENT MESSAGES IN AREAS WHERE NECESSARY | 3 |

[redacted]

PART ONE -- SECURITY (Continued)

| | |
|---|---|
| DISCLOSURE OF FREQUENCY IN OPERATION IN THE CLEAR, WHEN CLASSIFIED ABOVE RESTRICTED | 29 |
| OPERATOR CHATTER | 576 |
| INTERCOMMUNICATION IN AIRCRAFT WHEN TRANSMITTER IS TURNED ON | 4 |
| DISCLOSURE OF VIP IN THE CLEAR WHERE SUCH DISCLOSURES ARE PROHIBITED | 4 |
| IDENTIFICATION OF INDIVIDUALS BELONGING TO AN ORGANIZATION | 10 |
| DISCLOSURE OF STRENGTH TYPE AND DISPOSITION OF UNITS | 21 |
| UNAUTHORIZED TRANSMISSION OF METEOROLOGICAL INFORMATION IN THE CLEAR | 1 |
| DISCLOSURE OF TYPE AND MOVEMENT OF FLIGHTS OR SQUADRONS ON PATROL OR INTERCEPTION | 2 |
| FAILURE TO AUTHENTICATE WHEN NECESSARY | 44 |
| USE OF "WX" IN PREAMBLE OR CALL-UP TO DESIGNATE WEATHER MESSAGE | 22 |
| USE OF OPERATORS' PERSONAL SIGN, NAME, AND/OR NICKNAME | 39 |
| TRANSMISSION OF EXCESSIVE OR UNNECESSARY INFORMATION WITH OPERATING SIGNALS | 337 |
| UNNECESSARY SIGNAL STRENGTH AND READABILITY REPORTS | 930 |
| OPERATORS PLAYING WITH KEYS | 3311 |
| USE OF AN UNASSIGNED FREQUENCY OR CANCELLED FREQUENCY | 7 |
| TRANSMISSION OF PERSONAL MESSAGES | 3 |
| OFF FREQUENCY OPERATION | 7 |
| FAILURE TO KEEP CLOSE WATCH ON ASSIGNED FREQUENCY | 19 |
| USE OF PLAIN LANGUAGE IN PLACE OF APPLICABLE PROSIGNS OR OPERATING SIGNALS | 684 |
| TRANSMISSION OF PRACTICE MESSAGES ON TACTICAL CIRCUITS | 26 |
| UNNECESSARY LENGTH OF TRANSMISSIONS | 30 |
| TOTAL | 6353 |

* * * * * * * * * * *

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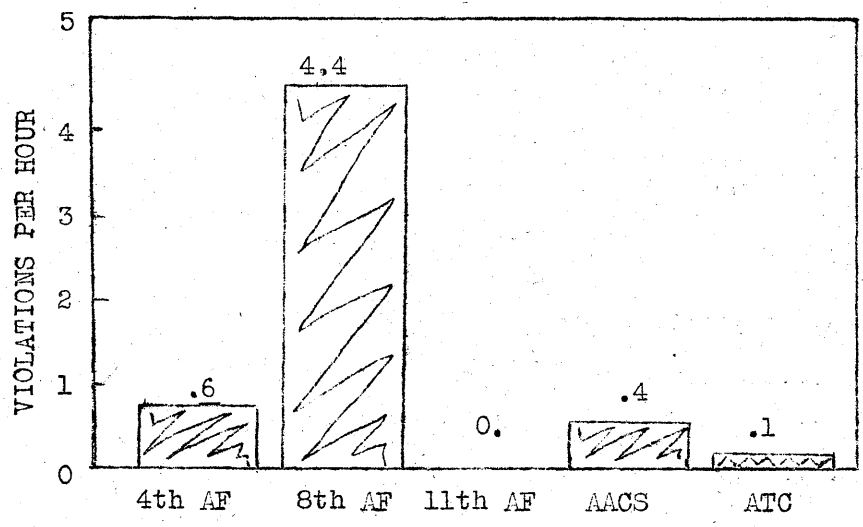
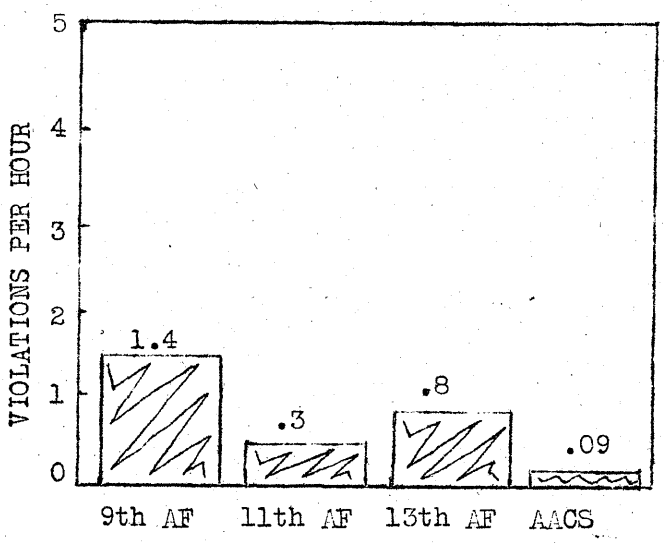
## SECURITY VIOLATIONS

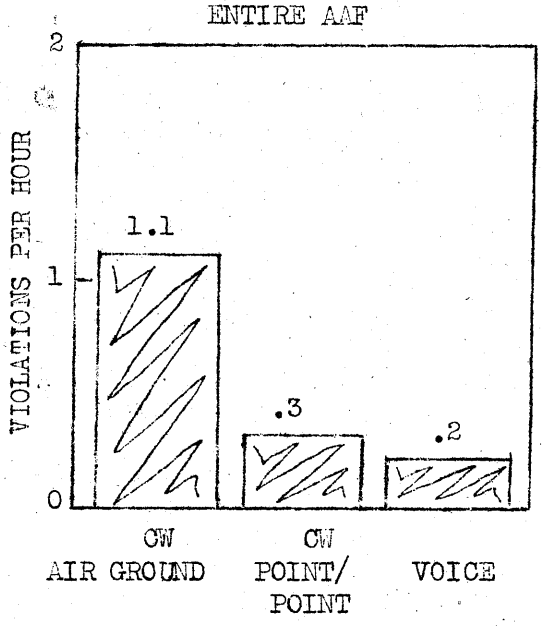
### C/W AIR GROUND CIRCUITS




### C/W POINT TO POINT CIRCUITS




### PER TYPE CIRCUIT ENTIRE AAF

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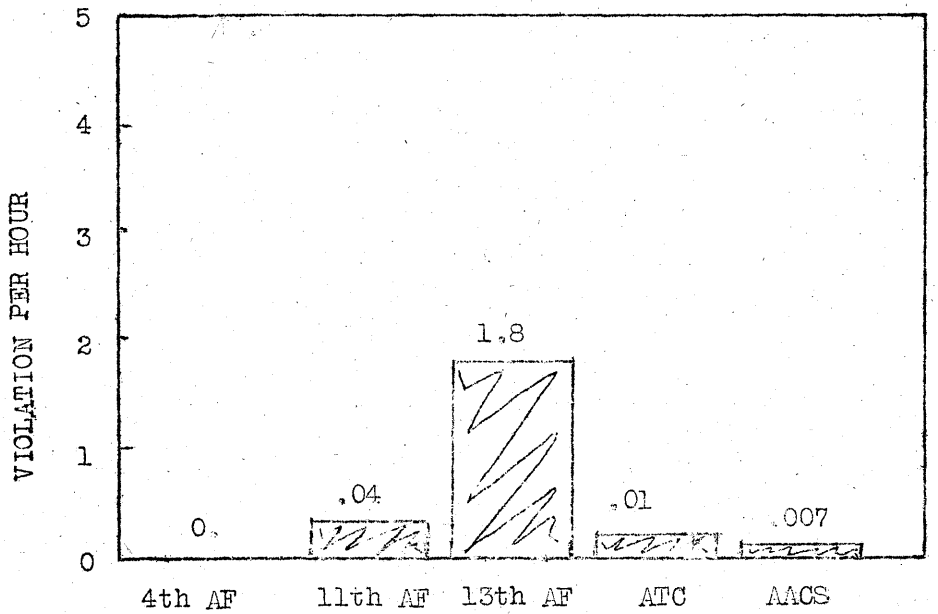
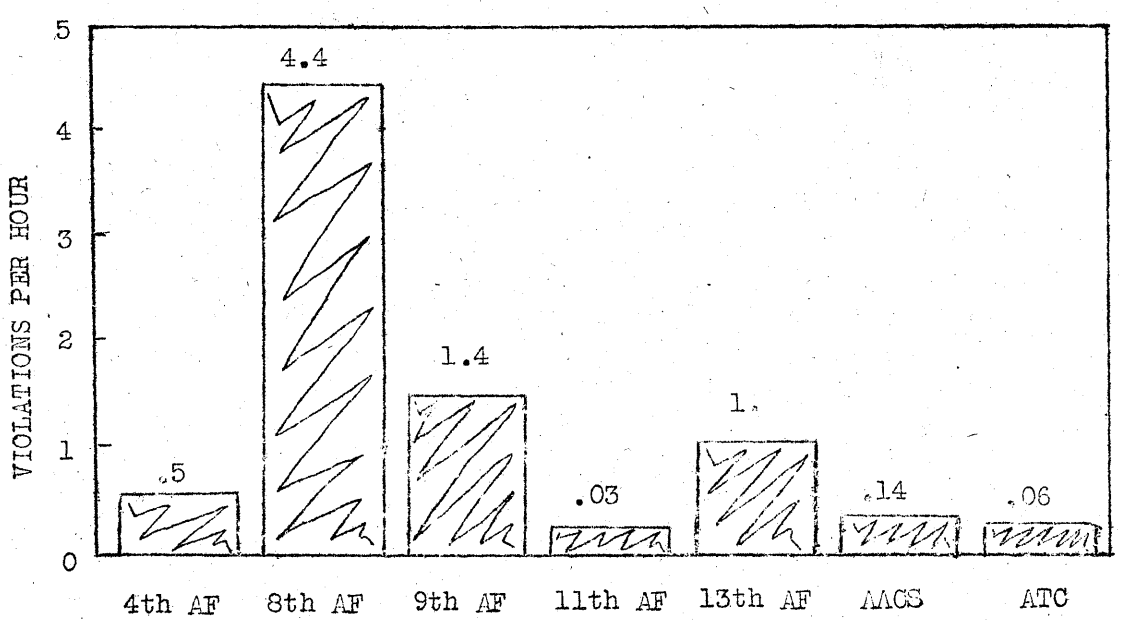
SECURITY VIOLATIONS VOICE CIRCUITS




TOTAL SECURITY VIOLATIONS

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PART TWO

OPERATIONAL PROCEDURE

23. "It is the duty of the NCS to see that his transmitter is on the proper frequency (by the use of a frequency meter, if possible), and that all other stations in the net are also on that exact frequency. It is essential that all radio stations be tuned exactly to their assigned frequencies in a modern army, where many radio nets are required and few frequency channels with proper separation are available." The preceding is a quotation from TM 11-454, Page 80, Paragraph 140.

24. Over a two day period, a specific net was monitored for purposes of determining causes of confusion and delay within the net. The greatest difficulty encountered was the failure of stations to operate on their assigned frequencies. It was found by monitor-operators that stations assigned to this frequency could not be heard a large portion of the time. A movement of the dial revealed that they were operating 14 kilocycles above their assigned frequencies. This drift seemed to be a result of an attempt to avoid foreign interference and atmospherics but the change in frequencies was not a wise change for radio teletype and sporadic voice transmissions blocked the unassigned channel also.

25. Between the hours of 0755 and 1030, a spot check was conducted on the unassigned frequency. At 0800 hours the following transmissions were heard.

CQ CQ CQ CQ V ABC QZF QZF VVV VVV VVV ABC
ABC VVVV ABC VVV ABC

CQ CQ CQ CQ CQ CQ CQ V ABC ABC ABC ABC ABC
VVV ABC ABC VVV

CQ CQ CQ CQ CQ V ABC ABC VVV

VVVVVVVVVVVVV ABC ABC VVVVVVVV QZF VVVVVVV

ABC VVVVV QZF QZF VVVV VVVV ABC DEF DEF/ GHI
GHI / JKL JKL /

MNO / PQR PQR PQR PQR K K STU STU / QYX QYX /
XYZ XYZ

V ABC ABC VVVVV ABC QZF QZF VVVVVV ABC

(NOTE: ABC CALLING HIS NET ON_____KCS)



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[redacted]

PART TWO -- OPERATIONAL PROCEDURE (Continued)

26. At the time of the transmission above, station ABC, the NCS was making a vain attempt to get all the stations back on the assigned frequency. The NCS, believing that he had reached all his subordinate stations then changed back to the proper channel. The other operators for some reason or another were still not aware that they were operating on the wrong frequency. The following transmission by station GHI will testify to that effect because he is trying to contact the NCS on the illegal frequency. As can plainly be seen, GHI asked ABC if his frequency were correct, still not realizing his position on the wrong frequency.

ABC ABC ABC ABC V GHI TTTTTTTT HR

ABC ABC ABC ABC V GHI GHI VVVV QMF INT
QMF HW

27. Further contacts were attempted by the other stations in the net. The following transmissions at 0833 again show that ABC was being sought, but to no avail as his subordinate stations were still operating off-frequency. In the transmission below QYX has an OP message for ABC but cannot locate him. Station DEF then joined in trying to aid QYX but he too met with failure.

ABC ABC V QYX QYX QMM OP QSV PSE K

TEST

ABC ABC ABC V DEF DEF QRZ QRZ QYX QYX QMM OP
QMM OP GR QSV QSV K K AR EE

ABC ABC V QYX QMM OP QSV OP QSV K K

ABC V QYX QMM OP

28. The monitor-operator who had been following the trend of the transmissions up to this time, then switched to the assigned channel to determine the reason for ABC's failure to answer all the call-ups directed his way. The monitor found ABC still eagerly trying to get the other stations on the proper circuit by sending test signals. After realizing that his first attempt to lure his subordinate stations back to the assigned frequency was not a success, ABC again switched back to the unassigned frequency and issued another net call and again requested the stations to tune into their assigned frequency. In this instance no two stations were operating on exactly the same frequency. At 0930 station GHI finally tuned into the assigned frequency and transmitted the operational priority message which was supposed to have been transmitted at 0833 hours. At 0935 all of the stations had changed to within five kilocycles of the original frequency and some of the individual signals could be discernible though very hazy. The NCS made one great mistake by not asking acknowledgement for his initial effort to get his net on frequency. If he had done so, the ensuing confusion and delay would not have been so lengthy.

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PART TWO -- OPERATIONAL PROCEDURE (Continued)

29. Voice circuits are continuously harassed by numerous types of interference, some prompted by the shortcomings of the operators themselves, others by elements not entirely controllable because of their origin from the elements of nature. These circuits have often been disturbed by the whistling and singing of operators, also by transmitters being left on, and now it has been noticed that operators are using a form of test which is very annoying and nerve-wracking to other members of the nets. As evidenced by the examples below, operators are blowing their breath into the microphone and using the emanating sound as a test signal.

1905Z AIRCRAFT BLOWING INTO MIKE IF YOU WANT TO MAKE A TEST COUNT INTO THE MIKE (WALLER)
(Monitor's comment: "Someone blowing into mike blocking out everything.")

0415Z SHIP TUNING UP ON THIS FREQUENCY AND BLOWING INTO THEIR MIKE WILL YOU PLEASE STOP IT YOU ARE BLOCKING THIS FREQUENCY ATKINSON ARMY AIRWAYS OUT

2486 THIS IS ATKINSON ARMY AIRWAYS WOULD YOU SAY AGAIN YOU WERE BLOCKED OUT OVER

30. It has been shown time and time again that radio communications at their best entail a certain amount of difficulty including atmospherics, general wear and tear on equipment and a certain amount of confusion due to superfluous transmissions, etc. All these difficulties play a part in making the radio operators job a nerve-wracking one. As all of this is probably self-evident to radio operators, a selfish and indifferent attitude is certainly being displayed when any operator knowingly practices this habit, thus contributing to the confusion and annoyance of his fellow operators. Therefore, it is recommended that all operators desist from using the "blowing into the mike" gesture as a means of testing.

31. Normally no station should leave a net without the proper authority of his NCS. In an instance occurring this month, a station deliberately left his net without permission of his NCS to do so. By doing such a thing, he missed two highly important messages by leaving to eat without being properly relieved. Much time was wasted by other stations calling him, completely unaware that he had taken an unauthorized "leave of absence". If it were so necessary for this station to leave the net he should have asked his NCS for permission, or he could have sent the operating signal, QPW, "I am closing down (until____)", or better yet, he should have waited until he was properly relieved. "GUARDING A FREQUENCY MEANS SIMPLY TO LISTEN CONTINUOUSLY TO A RADIO RECEIVER WHICH IS TUNED TO THE FREQUENCY BEING GUARDED." (TM-1-460, Paragraph 119, Page 52.)

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PART TWO -- OPERATIONAL PROCEDURE (Continued)

32. Misuse of air-to-ground frequencies continues to be a very trying problem to aircraft who are very much in need of a clear channel for information relevant to the safety of aircraft. So many of these channels are being used for every purpose but that for which they were intended. Certain schedules have been inaugurated and only by strict adherence to the time element can a smooth communications system free from confusion and delay be in evidence. Failure to receive the proper briefing prior to take-off and failure to adhere to scheduled broadcasts are the greatest creators of superfluous transmissions which in turn prohibit aircraft from acquiring information necessary to the immediate functioning of the aircraft. Some of the more frequent superfluous transmission encountered are a result of the following.

A. Aircraft requesting weather forecasts rather than taking advantage of the facilities-broadcast on a frequency assigned for this purpose.

1. In A above, failure to consult, or have in possession, the local SOI resulted in numerous requests for information which should have been acquired at the properly scheduled time.

B. Aircraft requesting information as to ground station's zone of control, call signs of ranges, and facilities available to them in specified areas.

1. Inadequate briefing brings about requests of a nature of the above.

C. Aircraft requesting that special notice of their flight arrival be forwarded to a specified member of the officialdom at their destination.

1. In the above, the information is but a repetition of a previously sent point-to-point message if the provisions of AAF Regulation No. 100-10 have been complied with.

33. All of these superfluous transmissions could have been avoided if operators aboard aircraft would make an effort to acquire information from the proper sources at the proper time. A little foresight on the part of responsible personnel would help eliminate some of the confusion and delay which is a direct result of carelessness and laziness.

34. Small procedure errors like those listed below continue to plague AAF radio nets. Any one of these cases could be ignored as trivial but when these - plus the other procedure errors that occurred during the past month are put together, it indicates that many radio operators don't speak the same language.

A. A telephone conversation in which neither of the parties knew who was on the other end of the line could not be very successful. In the same manner it is hard to understand why a radio operator would ever send a series of V's without including his call sign. The only time V's should be sent is to enable another station to tune or zero beat his set to the sending station, a situation where the identity of the sending station must be known. The omission of call signs is a simple violation yet the inclusion of call signs where necessary will preclude much confusion and the elimination of all unnecessary testing, such as long series of V's to adjust a key or "bug", will free additional time for actual traffic clearance.

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PART TWO -- OPERATIONAL PROCEDURE (Continued)

B. During the transmission of a certain message last month, one of its groups was transmitted four times and each time differently. The quality of the sending was so poor and so many repetitions of various parts of the message had been made that after the message had been completed there were four different versions of the same group to choose from, all presumably correct.

35. Practical experience show that when two or more stations are simultaneously filling a channel with signals, only a jumble of characters results. No one clears anything - all time is wasted. Yet this practice goes on, each station trying to force its traffic over that of another station, regardless of the NCS or the precedence of traffic.

Consider the following story as told by the brief notations:

A. Net operating 14 kcs. above assigned frequency.

B. NCS (ABC) makes the following transmission: V ABC VVVVV ABC QZF QZF (Zero beat your transmitter to my frequency.)

C. NCS then drops to correct frequency and sends test signals to enable stations to zero beat on proper frequency.

D. Net stations unable to locate NCS. None listened on assigned frequency.

E. Station XYZ has OP message for NCS. Transmits call-up on wrong frequency.

F. Stations continue to call on improper frequency. Do not attempt to work on proper frequency.

G. NCS leaves assigned frequency, contacts stations, and again tells them to return to proper frequency.

H. Station XYZ then tunes transmitter to correct frequency and transmits OP message to ABC (after delay of over 1 hour).

I. Remaining stations then attempt to locate assigned frequency. Still about 5 Kcs. off. In this case a disregard for the NCS, a lack of knowledge of correct operating procedure and a failure to appreciate the necessity for operating only on assigned frequencies, combined to cause much confusion and delay.

36. The instances listed above exemplify the Poor Net Discipline that continues to be the major source of impedance to the rapid and efficient clearance of traffic on AAF radio channels. Only by full cooperation of all operators in a net and their complete recognition of the authority of the NCS can a net attain the maximum efficiency.

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PART TWO -- OPERATIONAL PROCEDURE (Continued)

37. To attempt to completely erase all procedure violations at a single stroke is futile, therefore it is felt that more can be accomplished by paying special attention to the top few errors and correcting the most flagrant ones first. The following table lists the 25 outstanding violations of CW procedure and the percentage of the total of 270,937 that each comprises:

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Omission of AR or K at the end of transmission..... | 8.9 |
| Use of AA to indicate continuation of transmission..... | 7.7 |
| Excessive use of IMI..... | 5.7 |
| Use of IMI as an erase sign..... | 4.3 |
| Use of T to mean Zero instead of five dashes..... | 4.1 |
| Use of ham expressions (such as HW, FB, CUL, OM,etc).... | 3.9 |
| Failure to transmit last complete group recieved when requesting a repetition..... | 3.5 |
| Use of a series of E's for break-in..... | 3.3 |
| Excessive use of separative sign..... | 3.2 |
| Use of more call signs for the receiving station than for the transmitting station or vice-versa..... | 2.7 |
| Excessive use of AA..... | 2.5 |
| Use of E as a receipt..... | 2.4 |
| Reply to transmission which have ended in AR..... | 1.9 |
| Failure to start with last complete group recieved when requesting a repetition..... | 1.8 |
| Excessive use of R..... | 1.8 |
| Unnecessary receipt for transmission..... | 1.8 |
| Use of abbreviated call signs (such as TU, XE, XJ, etc.)..... | 1.6 |
| Use of BT for break-in..... | 1.6 |
| Failure to follow a series of V's with the proper call sign when testing..... | 1.6 |

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Excessive use of K. | 1.6 |
| Starting transmission with R. | 1.5 |
| Use of TEST as a test. | 1.4 |
| Starting transmission with VE. | 1.4 |
| Excessive repetition of operating signals. | 1.3 |
| Starting transmission with a series of V's. | 1.2 |
| 185 miscellaneous types | 27.3 |

38. In the same manner as above, the 20 outstanding deviations from Voice procedure are listed together with the percentage of the total of 91,694 violations that each comprises:

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Omission of termination word. | 28.28 |
| Omission of the words THIS IS. | 19.90 |
| Use of PLEASE, UNDERSTOOD, THANK YOU, ROGER-DODGER, AND OKAY except when establishing communication. | 11.84 |

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| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Use of the word FROM instead of the words THIS IS | 7.63 |
| Improper position of ROGER | 6.88 |
| Use of the words STAND BY instead of WAIT | 2.61 |
| Unnecessary use of ROGER | 2.56 |
| The employment of numerals to designate readability and/or signal strength | 2.38 |
| Omission of the transmitting stations call sign when necessary | 2.17 |
| Use of unauthorized call., | 1.96 |
| Use of the word CALLING in the call-up | 1.75 |
| Use of GO AHEAD instead of OVER | 1.58 |
| Use of the word SHIP to designate aircraft | 1.14 |
| Replying to a transmission that has ended in OUT | .80 |
| Use of inverted call or use of word TO in the call-up | .64 |
| Use of ROGER to mean that is correct, correct, permission granted, affirmative, etc | .64 |
| Use of unauthorized ending | .63 |
| Improper position of the call | .63 |
| Failure to use standard phonetic alphabet | .56 |
| Failure to preface a repetition with the words I SAY AGAIN | .54 |
| Failure to use procedure phrase when same is available and applicable | .52 |
| Use of the word REPEAT instead of the words SAY AGAIN | .47 |
| Use of WILL DO to mean WILCO | .46 |
| Use of GO AHEAD and OVER | .42 |
| Use of OVER and OUT | .41 |
| 65 miscellaneous types | 2.60 |

39. A total of 45,849 messages was intercepted this month. Of these, 24,501 were unidentified as to the type of code used. The remainder are broken down into the different forms of codes used and are listed below. The total messages intercepted this month represents a decrease of 38% over last month. The percentage of PLAIN-TEXT messages intercepted continues to decrease, however it remains the most prevailing type of message, accounting for over 34% of the total.

| CODE FORM | NUMBER |
|---|---|
| PLAIN- TEXT Messages | 15,648 |
| Five-letter Code Messages | 3,212 |
| Five-Figure Code Messages | 1,249 |
| Phonetic Alphabet Code Messages | 124 |
| Four-letter Code Messages | 123 |
| Miscellaneous Messages (Rekoh, 4- Figure, 3-Letter, etc.). | 992 |
| TOTAL MESSAGES | 21,348 |

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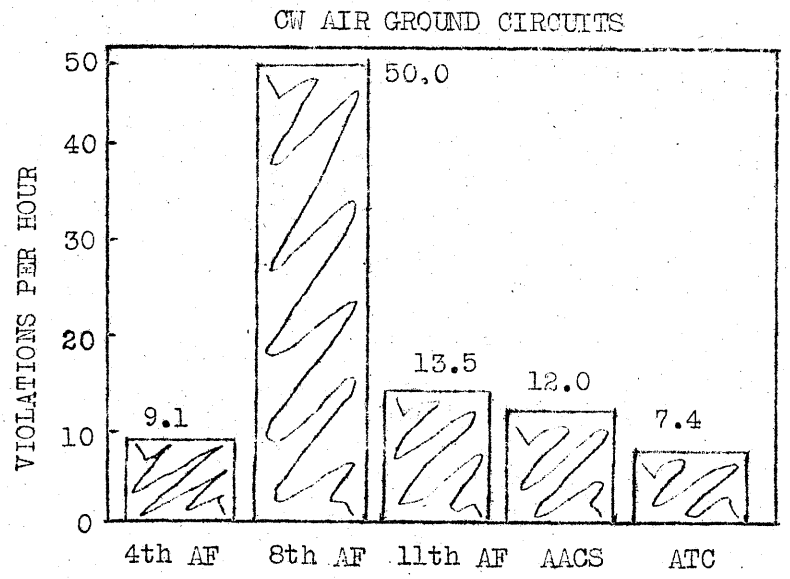
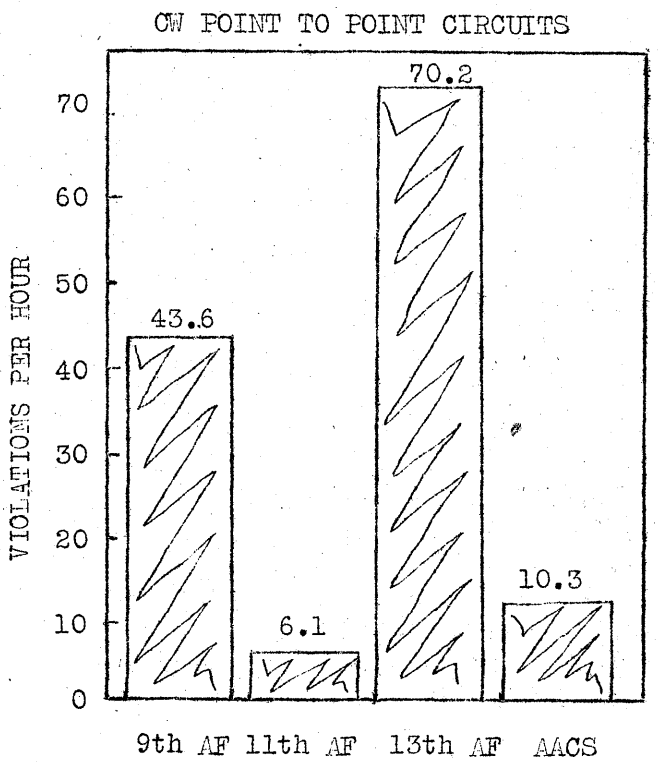
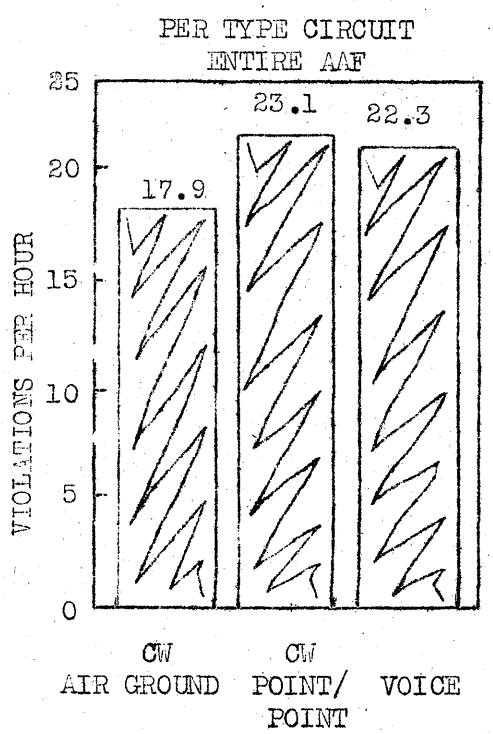
PROCEDURE VIOLATIONS

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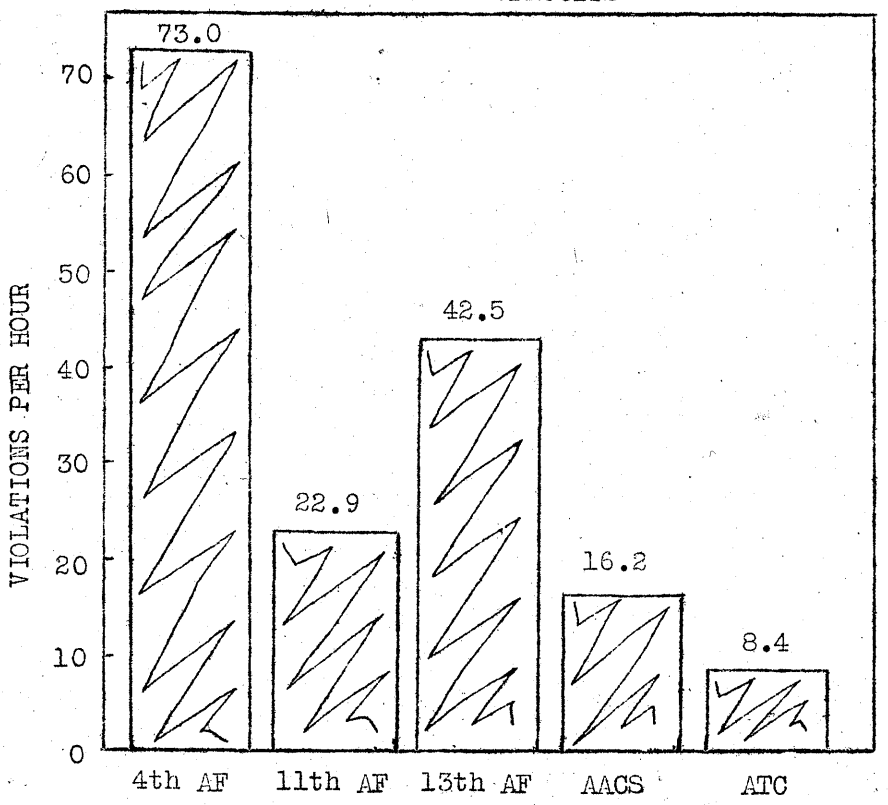
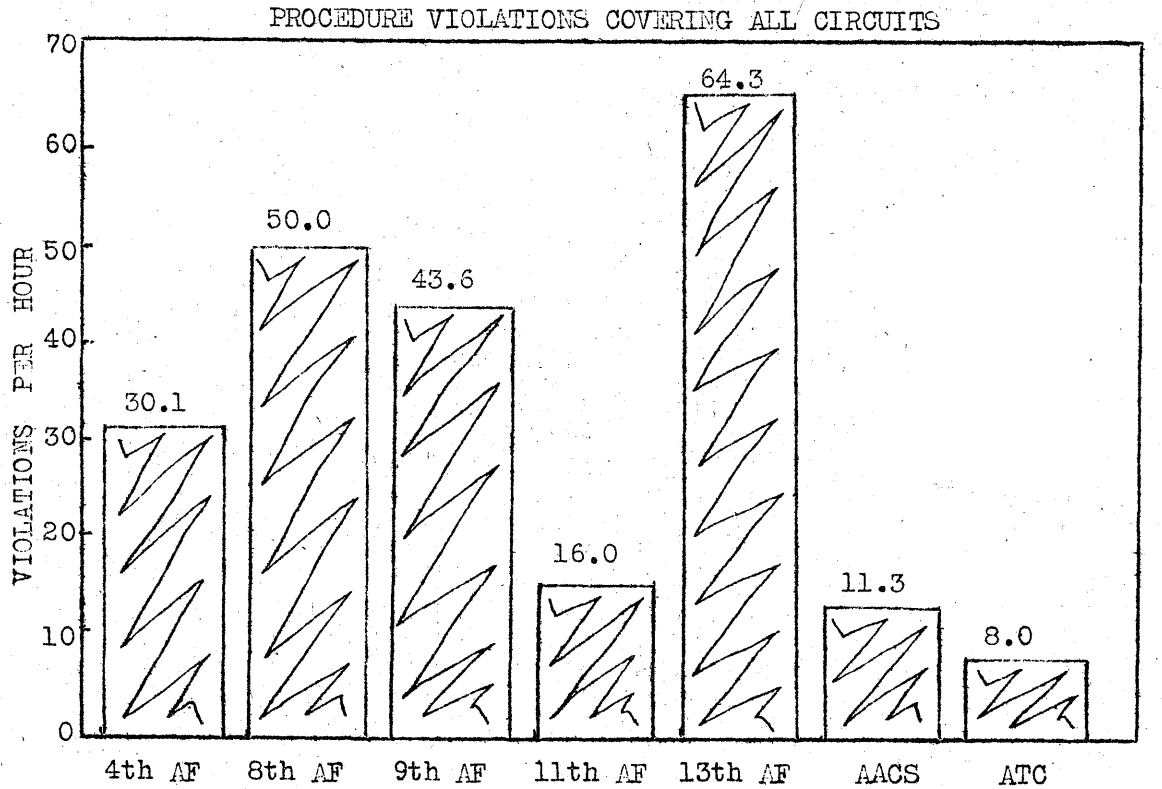
PROCEDURE VIOLATIONS
ON VOICE CIRCUITS




PROCEDURE VIOLATIONS COVERING ALL CIRCUITS

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APPENDIX I

SORD 15

Listed in the table below are examples of many of the various types of violations encountered on Air Force frequencies monitored by Sections of the 136th Radio Security Detachment. It should be noted that the following illustrations deal mainly with security. The extracts are true except for fictitious call signs. Notations in parenthesis are monitor-operator insertions.

a. Use of Obscene Language.
Reference: TM 11-469, par 43a; TM 1-460, par 130.

(name) TOWER THIS IS 1234 I CAN SEE THE P-47 THEY ARE ON FINAL OVER ROGER
789 THIS IS (name) TOWER YOU ARE NUMBER 1 OVER
ROGER I HAVE HIM IN SIGHT WHAT THE (PROFANITY) IS HE DOING THERE (1234)
THE P-47 IN SIGHT .....
ROGER I WILL GIVE IT TO HIM WHEN HE COMES IN (TOWER)
1234 COMING RIGHT AROUND
ROGER 1234
CLEARED 1234 YOU ARE NO 1 TO LAND OVER (TOWER)

b. Linking of Call Signs.
Reference: CCBP 7, par 74.

VVV VVV ABC VVV VVV ABC AR
VVV VVV EFG AR (R4 S4-3 X3 (EFG SENT A SERIES OF V'S AT 0620
VVV VVV ABC VVV VVV ABC AR (THEN SENT A SERIES OF V'S USING THE CALL
VVV VVV ABC VVV VVV ABC AR (OF ABC AT 0621 IDENTIFYING THEMSELVES BY
(TONE AND FIST AS BEING THE SAME OPERATOR
(FROM ONE STATION.

c. Faulty Request of repetitions.
Reference: TM 11-454, par 68.

ABC V DEF K
DEF V ABC OP-291955Z GR 7 BT KVYX JZUR CPOC JSYK BRUF JSYK SRIC BT
191955Z K
VDEF EEEEEEEEE V DEF IMI 3 K
V ABC 3- CPOC
V MNO - 3 CPOC IMI CPOC K
V DEF IMI 4 K
V MNO -4 JXYK IMI JSYK K
V DEF IMI 7 K
V MNO - 7 SRIC IMI SRIC K
V DEF QJC 2115Z AR

d. Incorrect Use of Authenticators.
Reference: TM 11-454, par 141c, par 142.

ABC ABC V DEF DEF OP QPA DOG K
AA V ABC AS AA VEEEEEEEEEE AS AR
AA V ABC QKA XX K
ABC ABC V DEF DEF QIA QPA DOG K

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APPENDIX I (Continued)

DEF V ABC QKA BB K
ABC ABC V DEF DEF QIA QPA DOG IMI DOG K
V ABC QKA CC K
V DEF C NR5-OP- 310305Z GR 2 BT LDIV MPJD BT K
V ABC R AR

e. Failure to Use Separative Sign.
Reference: FM 24-10 art. 35(a); TM 11-454, par 95, a (1).

ABCDL V LMNO NR2 OP A LMNO 110111Z ABCDL GR8 BT TWO EIGHT XRAY ZERO FIVE THREE 0215Z TOPAZ BT 110111Z B OP
V ABCDL R NR2 K

ABCDL V LMNO NR3 OP A LMNO 110110Z ABCDL BT SIX ONE XRAY FIVE TEEEEEEE FIVE TWO ZERO SEVEN BT 110110Z K
V ABCDL R NR 3 AR

f. Association of Call Signs with Ship Number.
Reference: AR 380-5 par 7b (16), 51 & 52; TM 11-454 par 136d and par 141c.

ABCD V EFGH NR2-OP-T-A-EFGH 051900Z XYZ GR5 BT 149 200 200 3715N 2046W BT K (R4 S4 C4 WPM 13)
V ABCD INT QRA K (R4 S4)
AS AS (EFGH)
R (ABCD)
ABCD V 1234 QRA 1234 K
V ABCD R INT A EFGH K
ABCD V 1234 A-EFGH K
V ABCD R NR2 AR

g. Reference to IFF Equipment.
Reference: FM 1-46, par 8.

(name) ARMY AIRWAYS HELLO THIS IS ARMY 1235 1235 OVER
5678 5678 THIS IS (name) OVER
ROGER 5678 .... (OPERATOR UNABLE TO READ THIS PORTION OF MESSAGE) WE DO NO NEED YOUR IFF ..... (OPERATOR UNABLE TO READ THIS PORTION OF MESSAGE)

h. Operator chatter.
Reference: CCBP 7 par 64c.

ABC ABC V WXYZ INT QDM K
V ABC R K
ABC V WXYZ R (TONE)
WXYZ V ABC R QDM 044-1117Z K
ABC V WXYZ R AR
ESE (ABC)
EE (WXYZ)
E (ABC)
E (WXYZ)
GM (ABC GOOD MORNING)
GM (WXYZ)
AR (ABC)

APPENDIX I (Continued)

i. Key Playing
Reference: TM 11-454 par 136d (4).

VVV VVV AR
VVV AR (S4
VVV AR (ABC
VVV VVV VV ABC VVV AR (R4 S4 C4
V (ABC
V VV VV (ABC
EEEEE E EEEE V (ABC)
V VV V (DASH) (ABC)
VVVV VVV AR (ABC)
V VV AR (ABC)
V (ABC)
V VV (ABC)
VV VVV VVV AR (ABC)
VVV VVVVV ABC AR (ABC)
V VVV VVV ABC ABC AR (ABC)
VV VVVVVVVV AR (ABC)
(NIL HRD)
(TEMPORARILY OFF)

j. Very Important Persons.
Reference: AAF Ltr. 100-42, AAF Reg. 46-3

(NAME) THIS IS 123 WE HAVE A GENERAL OFFICER ABOARD DO YOU KNOW IF THERES TRANSPORTATION WAITING FOR HIM OVER
ROGER

k. Incorrect Use of XE as a Separative Sign.
Reference: FM 24-10, art 35; TM 11-454, par. 95.

123 / V ABC / INT QRK INT QSA K (THESE ARE SEPARATE TRANSMISSIONS)

VVV DEF DEF V LMN LMN // QSV QSV K

l. Use of Plain Language.
Reference; FM 24-11.

ABCD1 V LMNO2--OP-130012Z BT RADIO COMPLETE REPORT GIVING DETAILS OF OBSERVATION BT K
LMNO2 V ABCD1 IMI AA REPORT K
V LMNO2 AA REPORT IMI REPORT GIVING DETAILS OF OBSERVATION BT K
LMNO2 V ABCD1 RAS
R
V ABCD1 NO SUCCESS AS YET ON SEARCH K

[redacted]

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# AACS
# RADIO SECURITY
# AND
# OPERATIONAL PROCEDURE
# REPORT
## (SORDA-5)

20 SEPTEMBER 1945

HEADQUARTERS ARMY AIR FORCES
136TH RADIO SECURITY DETACHMENT

[redacted]

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~~RESTRICTED~~

136TH RADIO SECURITY DETACHMENT

RSD 370.2/1

AFACO-CB/SD4
20 SEPTEMBER

ARMY AIRWAYS COMMUNICATIONS SYSTEM
RADIO SECURITY AND OPERATIONAL PROCEDURE REPORT
(Short title: SORDA 5)

INTRODUCTION

*********

This monthly report is prepared for the Army Airways Communication System by the 136th Radio Security Detachment. Tabulations are a consolidation of material presented by eleven Radio Security Sections. Additional Sections will submit data as soon as they have completed arrangements with designated AACS Wings and Groups.

Only frequencies assigned to and operated by AACS are reviewed in this report. A total of 11,640 hours of monitoring time for the first half of August is presented.

Controlling agencies of stations monitored include the 1st Wing, 51st and 53rd Groups; 2nd Wing, 55th, 56th and 57th Groups; 3rd Wing, 59th and 60th Groups; 4th Wing, 61st, 62nd and 63rd Groups; 5th Wing, 58th, 64th and 65th Groups; 6th Wing, 66th and 67th Groups; 7th Wing, 70th Group; 8th Wing, 73rd and 74th Groups. These were monitored on a spot check or full time basis as time permitted.

Classification of Confidential is placed upon this report owing to the inclusion of actual call signs and frequencies used in air-ground operations in tactical areas.

Message examples and illustrative transmissions included in this report contain actual call signs and frequencies in use. ALL EXAMPLES ARE TYPICAL VIOLATIONS OF THE TYPE ABOVE BEING NOTED ON AACS CIRCUITS IN ALL WINGS MONITORED.

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~~RESTRICTED~~

PART ONE

SECURITY

The greatest single contribution that an operator can make toward improving AACS facilities is to know procedure. That doesn't mean just be familiar with it-it means know it forward and backward and be able to apply it correctly in any situation to accomplish the task at hand. The operator who has to refer to the manuals every time he carries on communication is a detriment to his unit. He must be able to clear traffic quickly and accurately without the delay that would come about by checking the manuals. This means, then, that the operator must study procedure until any situation can be handled with accuracy and speed in the accepted manner.

When a control tower handles take-offs and landings at the rate of one per minute on small inadequate landing strips, or when there are from 30 to 50 planes in the landing pattern at one time, there is no time for fumbling. The operator must be on the alert and know his procedure as well as he knows how to talk.

Operators sometimes fail to comprehend that a communications system is dependent on each individual station to function properly. If one small unit which makes up a part of a large network fails to operate properly the whole communication system may be disrupted. The one unit which fails to keep up the work because of inefficiency becomes a bottle-neck and the whole system suffers as a result. The surest way for an operator to keep his station operating efficiently is to know correct procedure and use it.

Although a good knowledge of procedure and its correct application is extremely important, an operator's job does not stop when he has acquired the knowledge and skill in the field of procedure. An operator must endeavor to become familiar with all the peculiarities that are characteristic of the area in which he is working. He must be familiar enough with radio theory to get the most from his receiver and transmitter under all circumstances.

There are other things which also come under the duties of a radio operator. He should learn everything he can about operating conditions in his area. Periodic checks must be made to determine weather conditions at the surrounding airfields. Advice and information must be given to airborne aircraft at a moment's notice. It takes initiative and the desire to serve with perfection.

An Officer of the ATC tells about an operator on duty in a control tower in Newfoundland who failed to check the weather conditions at a nearby field before ordering a flight of C-47's to by-pass his field and land at the other one. When the flight arrived at the field and attempted a landing it was impossible for the control tower to bring them down as the field was completely closed in. He checked the visibility at the other field and found that it was a little better so he instructed the flight to return to the first field. By the time the planes arrived at the field it was so foggy and dark that the field could barely be identified. The pilots knew that their one hope, the ground control, had muffed the deal and they became worried and a bit panicky because of their lack of confidence in the operator in the tower. All the planes tried simultaneously to make contact with the tower which resulted in general confusion. Filled with anxiety over the situation each pilot turned his transmitter up with more volume in a frantic effort to make contact with the control tower. Communication over the channel became an unintelligible mass of emissions.

PART ONE--SECURITY (Continued)

The planes finally got down but as the young pilot said, "We were mighty fortunate and were greatly relieved when we felt terra firma under our feet again."

The radio operator concerned may have had good knowledge of procedure but he lacked the foresight to find out what conditions were at other points before advising the flight to continue to another field for landing. He also lacked the coolness of manner and ability to act wisely during an emergency. Aircraft must depend on ground controls for guidance and navigational aid without which they would often become lost or forced to make crash landings. An air crew's confidence in the ground station should not be shaken by incompetency.

To promote efficiency in AACS communications it is important that messages be transmitted in a brief, concise manner. In order to do this a system has been devised whereby each station is assigned a call sign and frequencies in use or to be used are given code names, to facilitate rapid clearance of traffic and deny the enemy certain information about the structure of the communications system in effect and other pertinent information that would be available if no code system were in use. This information is printed in the form of an SOI and distributed to all personnel who are entitled to the information or who will be taking an active part in the communications.

If all messages were sent with complete name and address of addressee together with the address of the headquarters from which he is working the communications system would become over burdened with lengthy message headings. Moreover, a simple call sign of a few letters of the alphabet means little to the enemy but the name of an important city or headquarters would mean much. Thus, for brevity and security reasons it is important that operators adhere to the use of the SOI at all times. The following excerpt shows the unnecessary length and the compromise of a call sign. The message was intercepted on an AAC frequency:

> 231 MCCLELLAN DID NOT RECEIVE YOUR MESSAGE
> 231 MCCLELLAN RELAY TO WZU KIRTLAND FIELD ALBUQUERQUE NEW MEXICO POSITION REPORT.

AACS stations seriously interfered with AAF nets intermittently over a period of five days. The AAF net employing frequency 2550 was blocked out by strong signals emanating from AACS stations of the 4th Wing utilizing frequency 2545. Broad signals and off frequency operation should be avoided in the interest of promoting efficient, smooth communications among all branches of the AAF. The following reproductions from monitor logs represent a more lucid presentation of operating conditions during the period of observation. The communication was between two Air Force stations operating under severe interference from four AACS stations whose signals were coming in clearly five kilocycles high.

| | |
|---|---|
| JGUD V DO3 N N6RR QRM INT QRU K<br>V JGUD QUR AR | (Monitor note: WLWZ WLNQ WZSS COMING IN W-3 NOW TO FREQUENCY 2350. WXWZ IS COMING IN ON 2545.) |

At 2017 GCT the monitor made the following notation:

(Monitor note: WXWZ WZSS WLNO WLNQ WZSQ net working W-3 at frequency 2550.)

PART ONE -- SECURITY (Continued)

(Monitor note: WXWZ making calls to WUTS now. WXWZ is W-3 on frequency 2550. Should be on 2545. WXWZ at frequency 2545 is S-4 R-4)

Three days later the frequency was again monitored and observations made.

(WXWZ heard on frequency 2550 S-3 R-3 should be on 2545)

TTTTTTTTT V DO3 QSA 5 QJI IMI Q EEEEE QJS 5 QRM IMI QRM QRA WXWZ WLNQ K V R5Q N QRM QRA WXWZ II QSA 5 QRK 5 QRU INT K

The above communication between two AAF stations indicated that interference from stations WXWZ and WLNQ was so great as to warrant the AAF stations to stand by for five minutes until the AACS stations cleared their traffic. Later the following transmission was logged which showed AAF stations still trying to communicate above interference caused by stations WXQZ and WXWZ.

V DO3 QRM QRA WXWZ IMI WXWZ WLNQ QRM K
V JGUD INT QTC - WZW EEEEEEEEEEEEE WZ EEEEEEEEEE WXWZ K
AS AS
V DO3 QRM QRM .....
WLNQ V WXWZ .....
DO3 DO3 V JGUD JGUD K (Monitor note: WXWZ sending Blocking Freq.)
DO3 DO3 V JGUD JGUD K (Monitor note: WXWZ sending Blocking Freq.)
DO3 V JGUD WLNQ-WXWZ INT ON RIGHT FREQUENCY 2551.)

TTTTTTTTTTTT TTTTTTTTTTTT TTTTTTTTTTTT WXWZ WXWZ V WLNO WLNO QSV QSV K K K

(Monitor note: WLNO interfering S-4 R-4. This station is operating on frequency 2548 with broad signals interfering with 2550.)

From the above transmissions it is evident that off frequency operation with broad signals by AACS stations seriously interfered with expeditious clearance of traffic. Such conditions cause much mutual distrust among communications personnel and serves as a bottle-neck to efficient handling of messages.

Operator chatter and key play account for the loss of many hours of operational time every month and extensively delay important traffic. From the component Sections of the 136th Radio Security Detachment come weekly reports which show that operator chatter and key play was universally carried on by AACS operators as well as other branches of the AAF. Operator chatter continues to be one of the chief causes for interference and delay in clearing traffic. The following transmissions show typical types of operator chatter recorded by Radio Security Sections monitoring AACS frequencies.

Frequency under observation: 4890

V WYSH R AR
AAA (WYSI

PART ONE -- SECURITY (Continued)

A (WYSI
B (WYSI
D EEEEEEEEE B (WYSI
A
A
AS
A
B
C
D
E
F
G
H
I
J
K
L
M
EEN
O
P
Q
R
S
T
U
V
K TU
GE
ZM (WYSH
EEE (WYSI

(Monitor note: This key playing was carried on by stations WYSH and WYSI)

The above key play was carried on by two AACS operators who couldn't seem to keep their hands off of the key. Each would send a letter of the alphabet and the other would follow up with the next letter until the alphabet was formed from A to Z. Such behavior might be over looked if it were transpiring between two ham operators who were just fooling around with their own sets as a hobby, but it is hardly proper on official AACS channels which should be clear at all times to facilitate flight of aircraft. It has been pointed out many times by security monitors that stations often fail to hear the weak signals of aircraft which are trying to contact a ground station during an emergency. Their signals must penetrate this wall of operator chatter and key play.

The following conversation between an AACS control tower and airborne aircraft transpired while tactical aircraft was on flight.

"HELLO BOVINGDON THIS IS FLIGHT 234 WHAT DID YOU HAVE FOR SUPPER
FLIGHT 234 THIS IS BOVINGDON MEAT LOAF"

I DON'T KNOW
WHAT DO YOU HAVE TO EAT DOWN AT ORLY

PART ONE -- SECURITY (Continued)

ALL THE TIME ROAST LAMB ROAST LAMB ( ORLY)
ORLY ALL YOU HAVE TO EAT IS C RATIONS EVERY TIME I COME DOWN

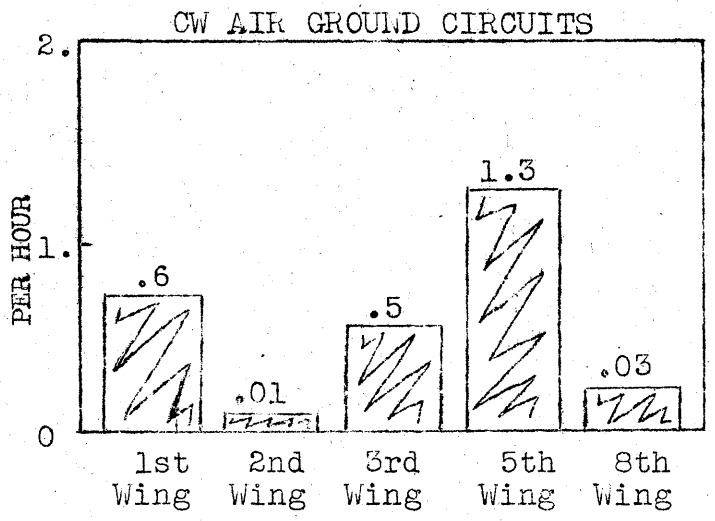
HEY ORLY SOMEBODY IS CALLING YOU

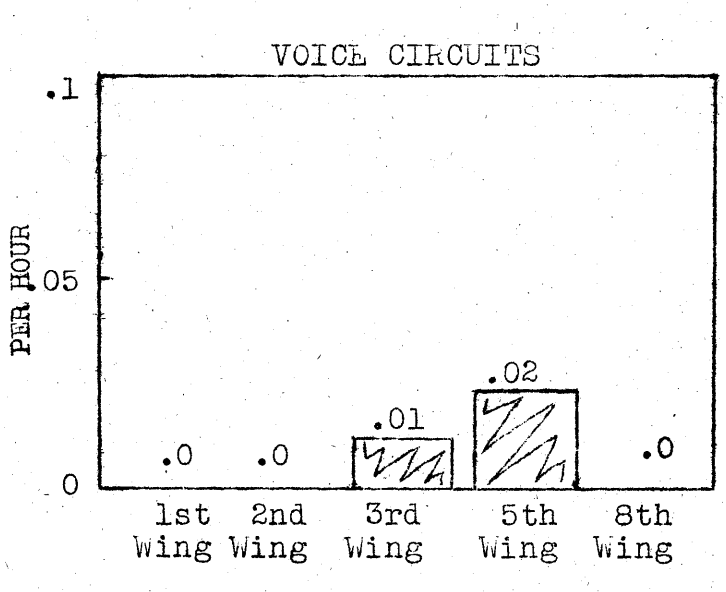
The few minutes which were taken up by the above unofficial conversation may have meant the difference in getting back to base or going down if an aircraft had been in serious trouble at that particular time. The last transmission above indicates that someone was calling ORLY but could not make contact because of the talk about "meat loaf" and "roast lamb." Things often happen so swiftly that aerial operators do not have time to send lengthy signals and it takes an alert operator to pick up these urgent messages. An operator who is busily engaged in the frivolity of key play will miss these signals.

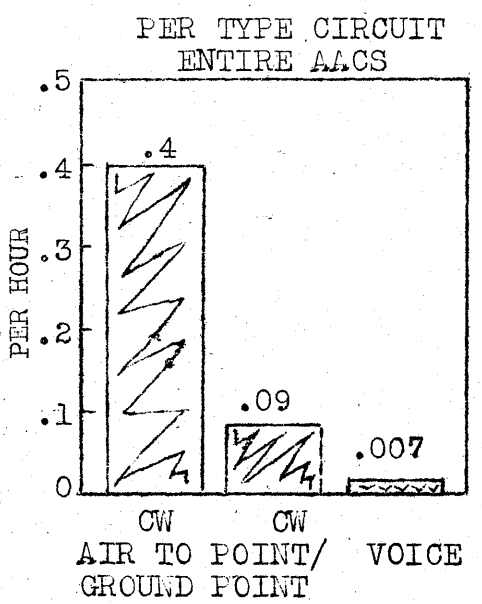
During the past month there were 2,121 security violations recorded by monitors guarding AACS frequencies. The violations appear below in the order of the number of times each was committed.

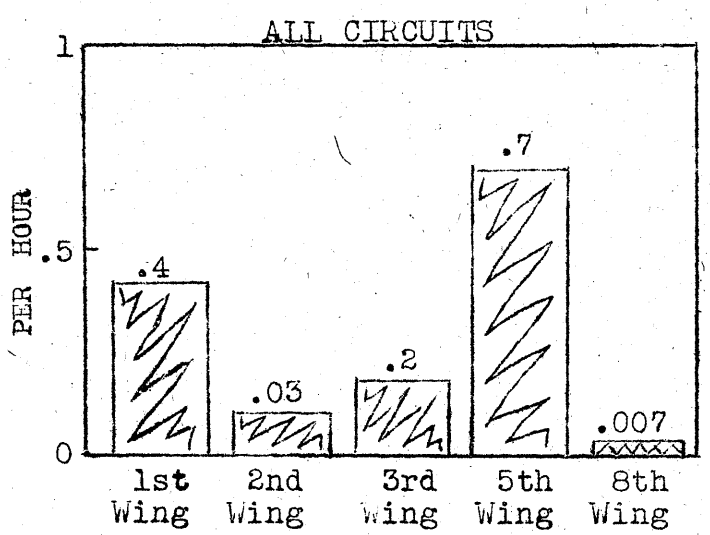
| | |
|---|---|
| OPERATORS PLAYING WITH KEY | 1037 |
| UNNECESSARY SIGNAL STRENGTH AND READABILITY REPORTS | 382 |
| USE OF PLAIN LANGUAGE IN PLACE OF APPLICABLE PROSIGNS OR OPERATING SIGNALS | 326 |
| TRANSMISSION OF EXCESSIVE OR UNNECESSARY INFORMATION WITH OPERATING SIGNALS | 191 |
| OPERATOR CHATTER | 89 |
| UNNECESSARY LENGTH OF TRANSMISSIONS | 23 |
| USE OF "WX" IN PREAMBLE OR CALL-UP TO DESIGNATE WEATHER MESSAGE | 18 |
| DISCLOSURE OF FREQUENCY OF OPERATION IN THE CLEAR, WHEN CLASSIFIED ABOVE RESTRICTED | 16 |
| TRANSMISSION OF INFORMATION AS TO QUANTITY AND/OR TYPES OF AIRCRAFT IN OPERATION IN COMBAT AREAS | 13 |
| FAILURE TO KEEP CLOSE WATCH ON ASSIGNED FREQUENCY | 8 |
| TRANSMITTING WITH A CHARACTERISTIC FIST | 7 |
| UNAUTHORIZED TRANSMISSIONS OF OPERATIONAL INFORMATION IN THE CLEAR | 4 |
| USE OF OPERATORS PERSONAL SIGN, NAME, AND/OR NICKNAME | 3 |
| USE OF PLAIN TEXT IN PLACE OF ORIGINATOR'S OR ADDRESSEE'S CALL SIGN | 2 |
| TRANSMISSION OF CALL SIGNS TOGETHER WITH LOCATION WHEN CLASSIFIED | 1 |
| DISCLOSURE IN THE CLEAR OF VIP WHERE SUCH DISCLOSURES ARE PROHIBITED | 1 |
| TOTAL SECURITY VIOLATIONS | 2,121 |

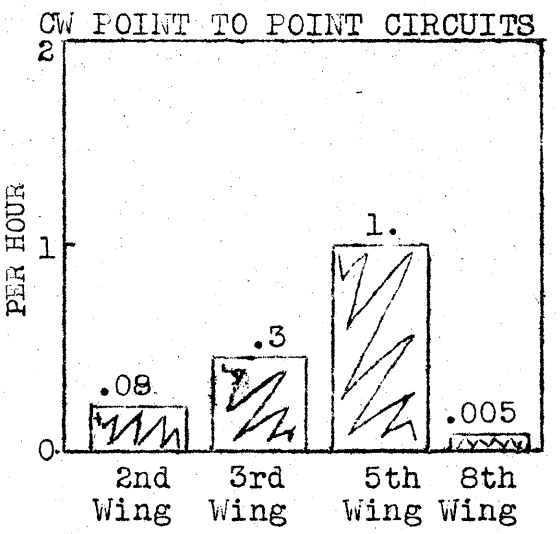
## SECURITY VIOLATIONS



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PART TWO

OPERATIONAL PROCEDURE

One of the chief sources of interference in an AACS Group located in the South Pacific area was caused by the incorrect practice of simultaneous sending. The fact that this situation prevailed, in many instances, made it very difficult to receive certain transmissions. At times atmospheric conditions (QRN) due to local weather conditions caused some difficulty in reception, but for the most part these factors were negligible. Since call signs were seldom transmitted, it could not be determined if ONLY net stations participated in this practice, or if other stations were also responsible for this type of interference. Probably the most fundamental reason for interference of this nature is the failure on the part of operators to listen before transmitting. If operators would comply with this relatively simple rule of communications, far less operational time would be consumed through repetitions and traffic would be cleared rapidly, keeping delay and confusion at a minimum.

The following monitor remarks indicate that the above condition does exist:

| FREQUENCY | TIME USED | MONITOR REMARKS |
|---|---|---|
| 6025 | 10 min. | "Several stations sending simultaneously blocking authorized traffic." |
| 6025 | 5 min. | "Stations KK7 and 1FY sending at intervals and interfering with station NDJ5." |
| 6025 | 3 min. | "Simultaneous sending is causing great difficulty in reception. Accurate copy of traffic hampered." |
| 10180 | 15 min. | "Transmissions from NLU and NRA causing considerable interference on assigned frequency." |
| 7905 | 15 min. | "Several unknown stations transmitting simultaneously and causing a pattern of garbled signals." |

Why does this practice so affect the efficiency of a net? To point this out, let us further analyze the reports submitted from the area in question. Following is a list of the messages sent during the period covered by this report. These messages are arranged in the order of their precedence.

| PRECEDENCE | PROSIGN | TOTALS |
|---|---|---|
| Urgent | O | 18 |
| Operational Priority | OP | 1131 |
| Priority | P | 36 |
| Deferred | D | 147 |
| Routine | R | 33 |
| TOTAL | | 1365 |

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PART TWO -- OPERATIONAL PROCEDURE (Continued)

From this list it can be seen that out of 1365 messages, 1131 were OP. In other words, 83% of the total messages were of a HIGH PRIORITY rating. For this reason, stations should be MORE ALERT THAN EVER to expedite their messages as much as possible; leaving the channel clear for the next operator's transmission. On the other hand, each station should make sure the channel is clear before attempting to begin his transmission.

Contrary to the belief of many radio operators, a "good" operator is determined not by the ability to transmit at a high rate of speed but the ability to clear traffic at a normal rate of speed. This misconception is apparent in many places:

A. After an operator has been working in a station for a period of time he will naturally be proficient in transmitting his own call sign very rapidly. Some operators with sending speeds of 20 to 25 WPM transmit call signs at 30 to 35 WPM. In nearly every case the call signs must be repeated at slower speeds before contact can be established. Recordings illustrate that characters transmitted during short bursts of speed above the normal transmitting ability are usually poorly made and run together.

B. A "Bug" in the hand of an experienced operator considerably expedites traffic clearance. "Bugs" used by inexperienced operators produce opposite results. A common error for the novice is to adjust the "Bug" to transmit dits at 30 to 40 WPM. Seldom is this speed attained in actual transmission. Dahs are usually transmitted at about 20 WPM forming characters that are extremely difficult to read, necessitating repetitions which consume additional operating time. A considerable increase in the smoothness of net operation has been shown in every case where "Bugs" were withdrawn from general use until the individual operator proved himself qualified to operate them. The following monitor notation taken from an intercept log helps illustrate this.

> (Note: FIRST TIME STATION SENT MESSAGE WITH BUG-SENDING ABILITY POOR- REPETITION WAS MADE WITH HAND KEY-SENDING ABILITY GOOD- IT CAN BE NOTED THAT ONLY ABOUT HALF THE TIME WAS USED TO SEND MESSAGE WITH HAND KEY AND TO OBTAIN A RECEIPT AS WAS USED IN TRANSMISSION WITH BUG.)

Correct usage of the "Bug" will aid, not hinder, its primary objective--more rapid clearance of traffic.

C. If the clearance speed of message is half that of the transmission speed the effect is the same as transmitting everything twice. The following table was compiled from extracts of several weekly reports and is included to augment this:

| INITIAL TRANSMISSION SPEED | ACTUAL CLEARANCE SPEED |
|---|---|
| 21 | 11.4 |
| 21 | 11.1 |
| 24 | 12.3 |
| 22 | 11.9 |
| 23 | 12.6 |

PART TWO -- OPERATIONAL PROCEDURE (Continued)

| | |
|---|---|
| 22 | 12.8 |
| 23 | 12.0 |
| 20 | 11.1 |
| 20 | 11.6 |

As is evidenced by the above, speeds consistent with the ability of the operators would eliminate unnecessary repetitions, thereby proving much more efficient. An operator who transmitted at 15 WPM and cleared his traffic at 15 WPM would be better than any of the above. Accuracy is the first consideration. Speed is secondary and comes with experience.

A good example of the confusion occurring when stations operate on different frequencies occurred last month. The NCS made a call to all other stations within the net and told them that he was changing frequency. The NCS then changed frequency before receiving a receipt from all stations. Only one of the subordinate stations changed frequency. For fifteen minutes complete confusion existed and all net traffic was delayed for thirty minutes. Good procedure and keeping close watches would have prevented this.

A certain amount of tuning and testing is required in any radio net. When beginning operations, changing frequency, after repairs and maintenance, or in special exigencies testing and tuning with subsequent readability and signal strength reports are in order. But in one case last month FOUR AND ONE HALF HOURS WERE SPENT IN EXCHANGING QSA'S and QRU'S and no attempt was made to clear traffic although operating conditions were good. Many other cases were noted in which one, two, or three hours were occupied with similar idle transmissions; i.e. exchanges of call signs, series of V's, readabilities, and QRU'S (I have nothing for you). The key and the microphone should never be used as the medium for relieving boredom or itchy fingers.

The tabulated figures below represent the 25 leading violations intercepted on AACS frequencies by Sections of the 136th Radio Security Detachment. This month the first 25 violations were found to be 73.2% of the aggregate total of 90,552 errors. Divided among 142 different type of violations, and not listed are 24,231 errors or 26.8% of the aggregate.

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Omission of AR or K at end of transmission. | 16.1 |
| Use of T to mean Zero instead of five dashes. | 7.9 |
| Use of abbreviated call signs (such as TU, XE, XJ, etc.) | 4.8 |
| Use of AA to indicate continuation of transmission | 4.3 |
| Excessive use of AA. | 3.7 |
| Starting a transmission with R. | 2.8 |
| Use of more call signs for the receiving stations than for the transmitting station or vice-versa. | 2.4 |
| Excessive use of separative sign. | 2.4 |
| Failure to use the separative before and after all prosigns in the call, preamble, and address, except V, AA, and NR. | 2.2 |
| Use of IMI as an erase sign. | 2.1 |

PART TWO -- OPERATIONAL PROCEDURE (Continued)

| | |
|---|---|
| Starting transmission with II. | 2.0 |
| Starting transmission with a series of V's. | 2.0 |
| Use of GR when refering to a single group. | 1.9 |
| Excessive use of R. | 1.9 |
| Use of E as a receipt. | 1.8 |
| Reply to transmissions which have ended in AR. | 1.8 |
| Failure to include necessary identification data with R (Receipt). | 1.7 |
| Excessive use of AS. | 1.6 |
| Use of a series of E's for break-in. | 1.5 |
| Excessive repetition of operating signal. | 1.5 |
| Excessive use of K. | 1.4 |
| Failure to follow a series of V's with the proper call sign when testing. | 1.4 |
| Unnecessary receipt for transmission. | 1.4 |
| Failure to use proper operating signal. | 1.4 |
| Excessive use of IMI. | 1.3 |
| 142 miscellaneous type violations. | 26.8 |

It is interesting to note that the three leading violations are all of the same nature. The radio operators attempted to shorten their transmissions by omitting a part of procedure or by abbreviating. This apparent desire to reduce transmitting time is very commendable but it should not be accomplished at the expense of correct procedure. Certain short-cuts may save a small amount of time when used exclusively between operators who are aware of the improvisations being employed but when new operations come into the net or when outside stations are contacted, non-standard procedure can only cause confusion. Experience has shown that uniformity is the best time saver.

The 20 leading Procedure Violations on AACS Voice circuits are listed below. The aggregate total is 40,303 voice violations with 38,098 being the total for the first 20. Of the total violations 5.5% or 2,205 errors are not listed because of their infrequent occurrence.

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Omission of the words THIS IS. | 22.2 |
| Omission of terminating word. | 19.4 |
| Improper position of ROGER. | 11.0 |
| Use of PLEASE, UNDERSTOOD, THANK YOU, ROGER-DODGER, etc. and OKAY except when establishing communication. | 8.7 |
| Use of the words STAND BY instead of WAIT. | 4.6 |
| Unnecessary use of ROGER. | 4.2 |
| Use of unauthorized call. | 4.1 |
| The employment of numerals to designate readability and/or signal strength. | 3.7 |
| Use of the word FROM instead of the words THIS IS. | 3.2 |
| Omission of the transmitting stations call sign when necessary. | 2.5 |
| Use of the word CALLING in the call-up. | 2.3 |
| Use of the word SHIP to designate aircraft. | 1.9 |
| Use of GO AHEAD instead of OVER. | 1.0 |
| Replying to a transmission that has ended in OUT. | 1.0 |

[redacted]

PART TWO -- OPERATIONAL PROCEDURE (Continued)

| | |
|---|---|
| Failure to use standard phonetic alphabet. | .9 |
| Failure to preface a repetition with the words I SAY AGAIN. | .9 |
| Use of ROGER to mean that is correct, permission granted, affirmative, etc. | .8 |
| Use of OVER and OUT. | .8 |
| Use of unauthorized ending. | .7 |
| Use of the word REPEAT instead of the words SAY AGAIN. | .6 |
| 36 miscellaneous type violations. | 5.5 |

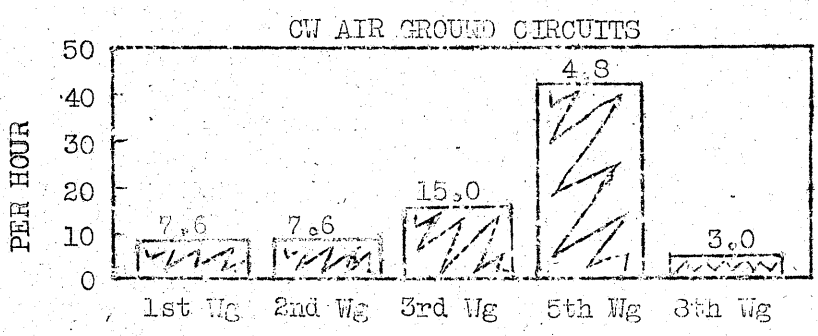
In the same manner that the English language is "SOP" for speaking and writing in the United States, the procedure outlined in TM 11-454 and CCBP 1 is "SOP" for radio communications within the AAF. It is recognized that the greatest aid to harmony and understanding between people is a common language bond. Does the AACS station that last month averaged 127 procedure violations for every 100 groups of message text transmitted speak the same "language" as other AACS stations? Did the stations that contributed to the total violations listed previously speak their "language" as well as possible? Will their communications with other stations be completed with the maximum efficiency?

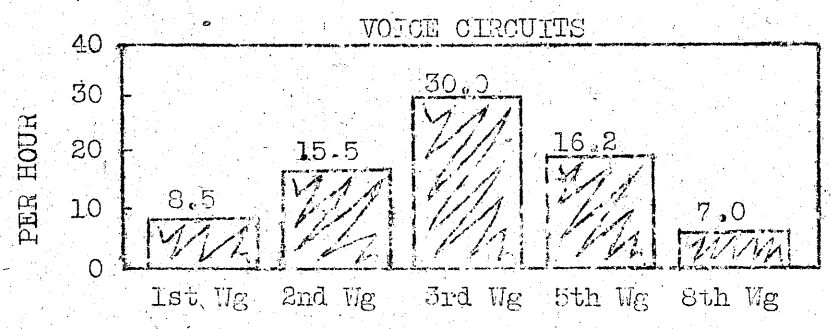
A total of 22,759 CW messages was intercepted this month. Of these, 5,900 were unidentified as to the type of code used. The remainder is broken down into the various code forms used. These forms are listed below:

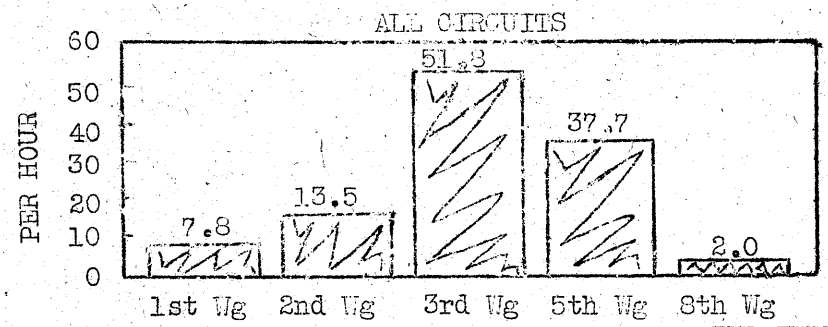
| CODE FORM | NUMBER |
|---|---|
| Plain text messages. | 14,548 |
| Five figure code messages. | 1,004 |
| Five letter code messages. | 584 |
| Phonetic alphabet code messages. | 83 |
| Four letter code messages. | 34 |
| Miscellaneous (Rekoh, four figure code messages, etc. | 606 |
| TOTAL | 16,859 |

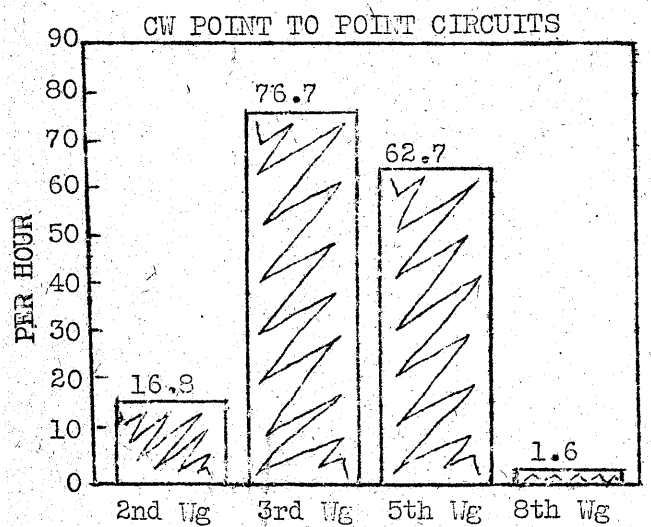
[redacted]

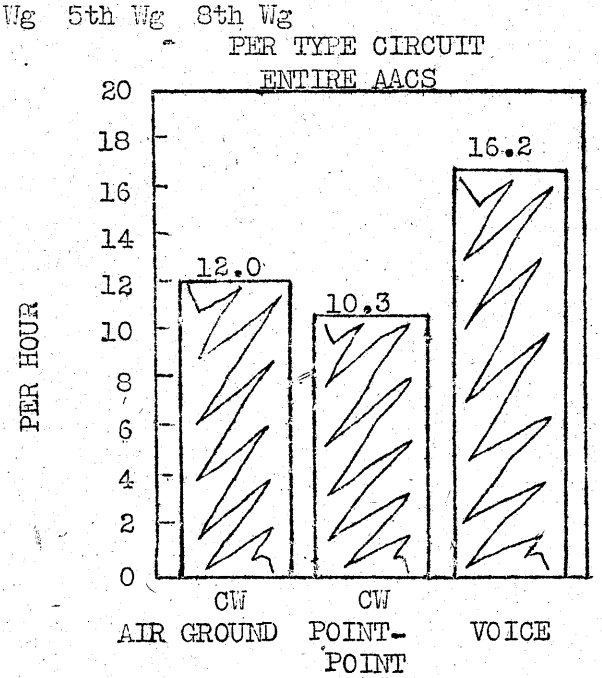
## PROCEDURE VIOLATIONS



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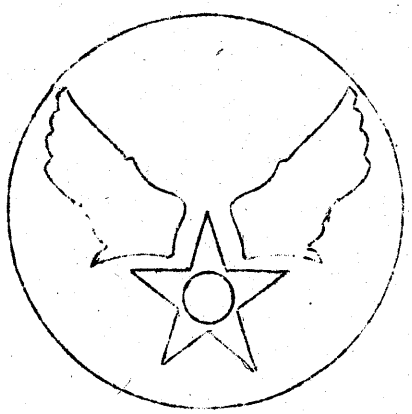
# ATC
# RADIO SECURITY
# AND
# OPERATIONAL PROCEDURE
# REPORT
## (SORDT - 3)



15 SEPTEMBER 1945

HEADQUARTERS ARMY AIR FORCES

136TH RADIO SECURITY DETACHMENT

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136TH RADIO SECURITY DETACHMENT

RSD 370.2/1

AFACO-CB/SD4
15 September 1945

AIR TRANSPORT COMMAND
RADIO SECURITY AND OPERATIONAL PROCEDURE REPORT
(Short title: SORDT-3)

INTRODUCTION

1. Presented herewith is Security and Operational Procedure Report (Short Title: SORDT-3) for the first half of August. This report is prepared for the Air Transport Command by the 136th Radio Security Detachment.

2. The command function of the 136th Radio Security Detachment is to provide radio security monitoring facilities for the Army Air Forces. Nineteen component Radio Security Sections have been attached by Headquarters Army Air Forces to various Air Forces and Commands throughout the world to fulfill this mission.

3. Reports resulting from part time monitoring missions have been submitted to the Communications Officer of the Alaskan Division, ATC; Caribbean Division ATC; South Atlantic Division, ATC; Headquarters Ferrying Division, ATC; and India China Division, ATC; North Atlantic Division, ATC; European Division, ATC; and North African Division, ATC. The reports submitted are from 7 Sections of the 136th Radio Security Detachment and it is from information contained in these reports that this SORDT is prepared.

4. All call signs and message examples contained in this report are factual. These violations are considered typical of violations being committed on all ATC circuits monitored.

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## OPERATIONAL PROCEDURE

5. Radio Security Sections monitoring Air Transport Command transmissions during this period reported a total of 18,678 violations of security and procedure. One of the more serious types was "Operators playing with key." The operator who indulges in this practice commits a breach of security against his fellow airmen who may need to call for navigational assistance or send urgent messages. One operator on board a plane tried to call his destination for over an hour without success and never contacted the field until he was in the landing pattern ready to make a landing. The frequencies were so burdened with operator key play that official messages could not get through. Here again lack of training and discipling is responsible.

6. The "Use of Plain Language in place of Applicable Prosigns" was used on numerous occasions on ATC channels during the last month. This type of violation often reveals classified information and contributes to ambiguity of messages. Such messages because of their added length take more operational time to clear and a slowdown in traffic clearance results. Another type of violation which seems to impede traffic clearance is the "Use of Operators Personal Sign, Name and/ or Nickname." Such message structures are not sanctioned by military communications organizations and should be avoided at all times.

7. "Transmission of Excessive or Unnecessary Information with Operating Signals" was also encountered. Only the information absolutely essential should be transmitted over the air. All superfluous transmissions should be eliminated.

8. Improper procedure and lack of radio discipline unnecessarily consume much operating time; interrupt the contacts of other aircraft; delay the transmission of scheduled broadcasts--weather, etc., and cause delay and confusion in the efficient operation of regular Air Field functions such as landings and take-offs, etc. As long as operators deviate from prescribed procedure and attempt to operate in an informal manner, any or all of the above conditions may result.

9. The voice transmissions recorded during the past month contained a total of 14,493 deviations from standard procedure. In order that special corrective action may be initiated to eliminate those most prevalent, the leading 25 violations together with the percentage of the total that each represents are listed below:

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Omission of the words THIS IS | 26.6 |
| Omission of termination word | 21.1 |

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| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Use of the word FROM instead of the words THIS IS. | 12.3 |
| Use of PLEASE, UNDERSTOOD, THANK YOU, ROGER-DODGER, etc., and OKAY except when establishing communication. | 11.5 |
| Improper position of ROGER. | 6.3 |
| Use of GO AHEAD instead of OVER. | 3.1 |
| Use of the word CALLING in the call up. | 2.7 |
| Unnecessary use of ROGER. | 2.3 |
| Use of inverted call or use of word TO in the call up. | 2.2 |
| Use of the words STAND BY instead of WAIT. | 1.2 |
| Reply to a transmission that has ended in OUT. | 1.1 |
| Use of ROGER to mean that is correct, permission granted, affirmative, etc. | 1.1 |
| Omission of the transmitting station's call sign where necessary. | 1.0 |
| Failure to use standard phonetic alphabet. | .8 |
| Use of OVER and OUT. | .8 |
| Use of unauthorized call. | .7 |
| Use of unauthorized ending. | .6 |
| Improper position of the call. | .6 |
| Use of WILL DO to mean WILCO. | .6 |
| Use of both ROGER and WILCO together. | .5 |
| Use of procedure phrase and meaning at the same time. | .4 |
| Use of GO AHEAD and OVER. | .3 |
| Use of word REPEAT instead of the words SAY AGAIN. | .3 |
| Use of OFF or THAT IS ALL instead of OUT. | .3 |
| Failure to use procedure phrase when same is available and applicable. | .2 |
| 25 Miscellaneous types. | 1.4 |

10. Nearly 50% of all violations of voice procedure occurred in the call and heading of the messages. Variations of the following type transmission accounted for most of these:

GREENVILLE TOWER THIS IS MIKE ABLE TARE 16 OVER

All of the following types of deviations from this simple procedure were recorded:

USE OF THE WORD FROM INSTEAD OF THE WORDS THIS IS
OMISSION OF THE WORDS THIS IS
OMISSION OF THE TRANSMITTING STATION'S CALL SIGN WHERE NECESSARY
IMPROPER POSITION OF THE CALL
USE OF UNAUTHORIZED CALL
USE OF WORD CALLING IN THE CALL-UP
USE OF INVERTED CALL OR USE OF WORD TO IN THE CALL-UP

Nothing can be accomplished between two stations until contact has been established. Therefore, it seems logical that special care should be taken to insure that calls and message headings are accurate and correct.

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11. Monitors of the 136th Radio Security Detachment noticed a total of 4083 CW procedure violations in the ATC transmissions recorded during the past month. The table below lists the 20 outstanding violations and the percentage of the total that each comprises:

| TYPE OF DISCREPANCY | PERCENTAGE |
|---|---|
| Use of more call signs for the receiving station than for the transmitting station or vice-versa. | 11.2 |
| Using a call sign more than twice on the initial call-up or initial answer. | 9.1 |
| Excessive use of R. | 8.4 |
| Use of DE in place of V. | 7.8 |
| Excessive use of K. | 6.8 |
| Use of E as a receipt. | 4.8 |
| Reply to transmissions which have ended in AR. | 4.4 |
| Omission of AR or K at the end of transmission. | 3.9 |
| Excessive use of BT. | 3.5 |
| Use of T to mean Zero instead of five dashes. | 3.2 |
| Unnecessary receipt for transmission. | 2.6 |
| Excessive repetition of operating signals. | 2.6 |
| Excessive use of separative sign. | 2.4 |
| Use of both AR and K or one in place of the other. | 2.4 |
| Excessive use of IMI. | 2.3 |
| Use of ham expressions (such as HW, FB, CUL, OM, etc.). | 2.3 |
| Use of XE as a separative sign. | 2.0 |
| Failure to follow the error sign with the last word or group sent correctly. | 1.6 |
| Starting transmission with VE. | 1.6 |
| Failure to include necessary information with an operating signal. | 1.4 |
| 59 Miscellaneous types. | 15.7 |

12. Of the total number of CW procedure violations committed by ATC operators during the past month, over 70% were excessive or unnecessary transmissions of one nature or another--from an extra dit after an AR to lengthy call-ups consuming many hours. The majority of ATC operators do not have a large volume of CW traffic to clear, transmissions consisting mainly of Voice tower contacts for landing instructions, weather, etc., but they should realize that every moment that they occupy a channel, Voice or CW, they prevent all other stations from using it.

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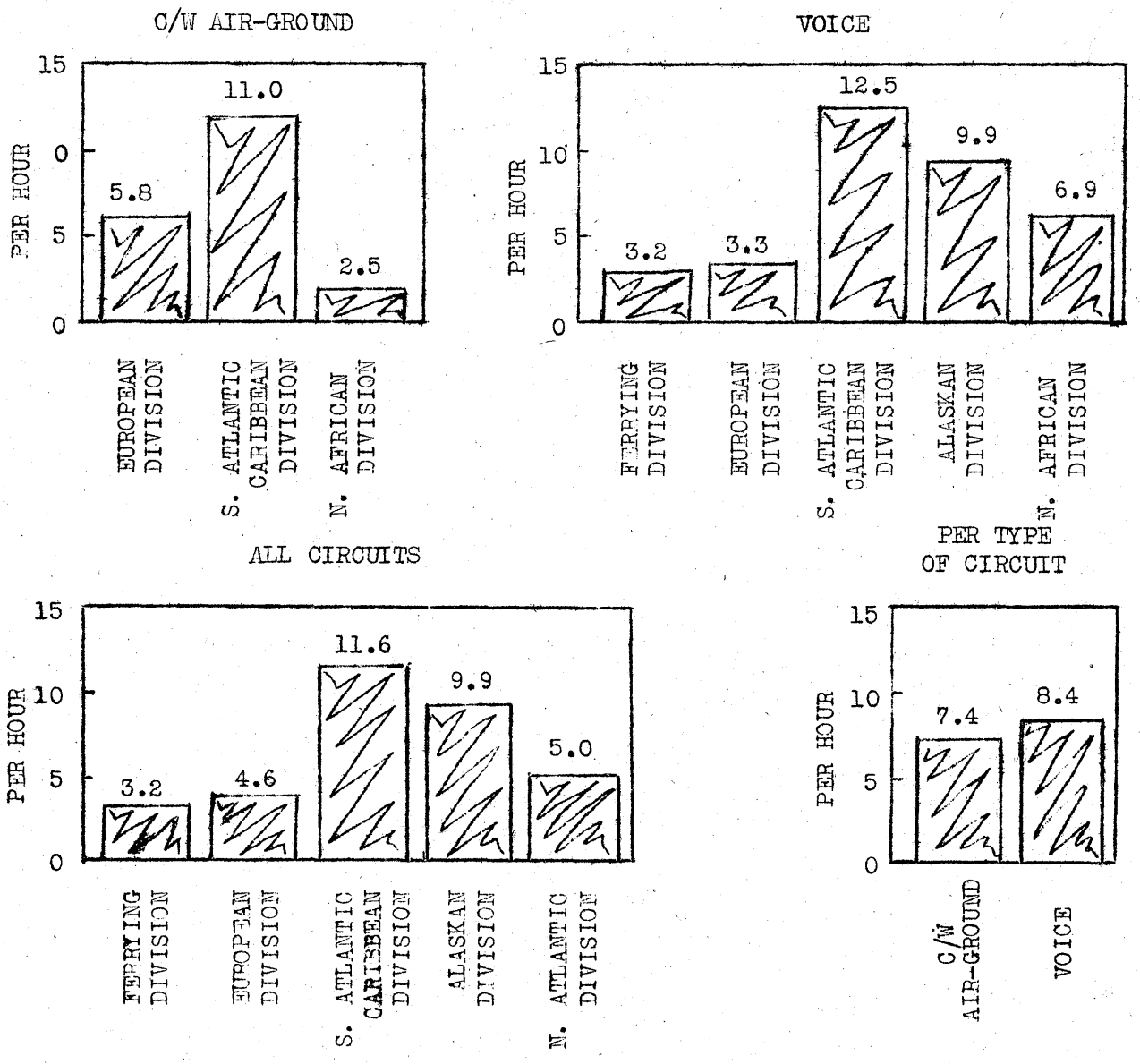
# PROCEDURE VIOLATIONS

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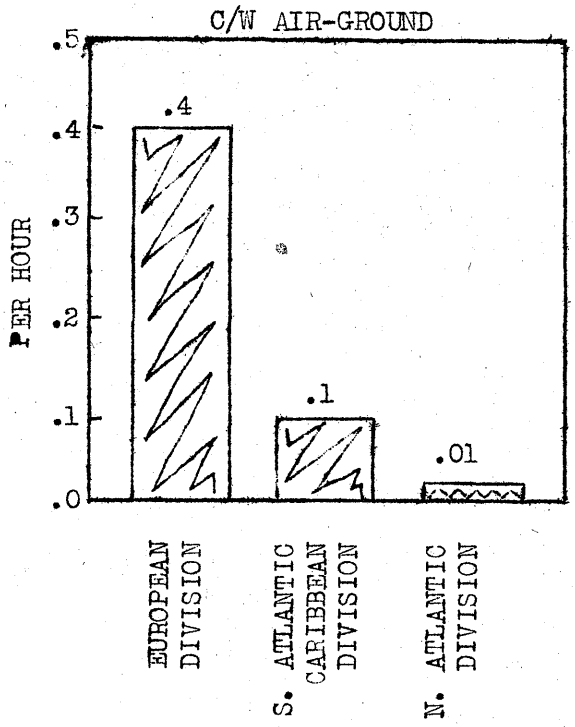
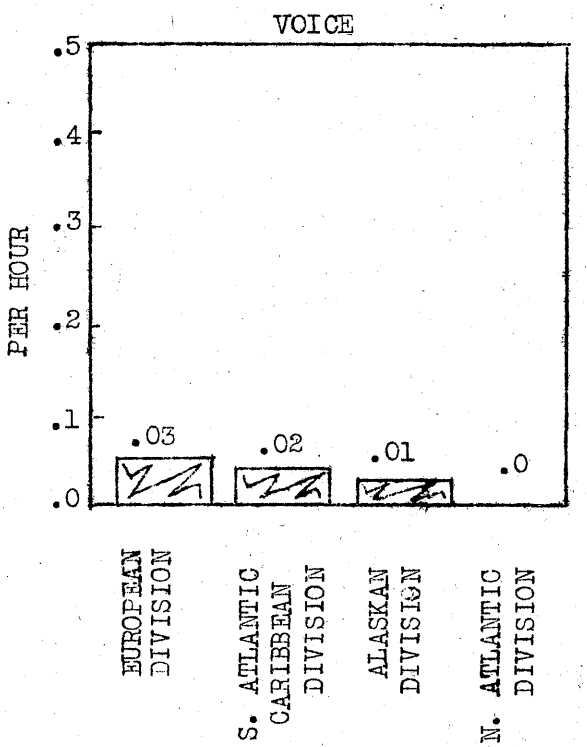
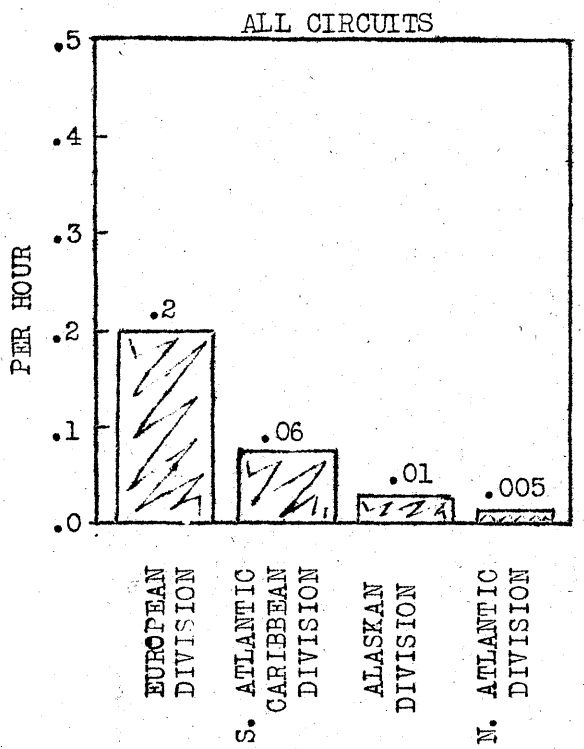
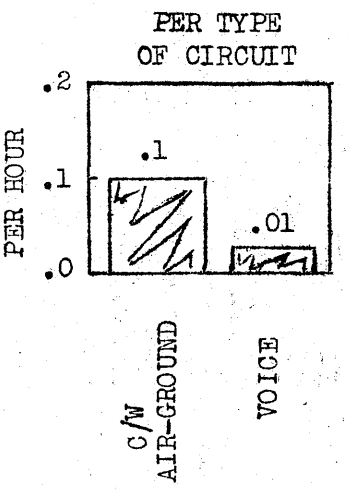
# SECURITY VIOLATIONS

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## Historical Material Reference Sources

1. Files of the 136th Radio Security Detachment.
   - (a) Correspondence
   - (b) General and Special Orders
   - (c) Cablegrams
2. Files of the Operations Division of the Office of the Air Communications Officer.
3. Radio Security Sections Historical Data (Sections 1-21).
4. Radio Security Sections Weekly Reports (SORDS).
5. Oral Interviews with Detachment Personnel.

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